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AN INCIDENT OF THE YELLOWSTONE EXPEDITION OF 1873.

ABOUT 8 o'clock in the morning of August 11, 1873, on the north bank of the Yellowstone River in Montana, in a spirited fight between eight troops of the Seventh Cavalry under General George A. Custer and Sioux Indians, Lieutenant Charles Braden, of this regiment, was shot through the upper left thigh. The bullet, from a Henry rifle, fired at a range of not over fifty yards, went clear through the leg, badly shattering the bone and splitting it down to the knee. The Lieutenant was dismounted and walking with his right side towards the Indians. The left leg was in the air when struck and as the wounded man fell, his weight coming on the broken bone, caused the ends to pass each other and stick into the flesh, making a very ugly wound. One of the sergeants with his detachment wore a long black silk scarf. This he took off and tied it as tight as he could around the leg above the wound.

Lieutenant Braden's detachment numbered about twenty men of L Troop, and was an advanced guard about a mile ahead of the main command. The detachment met a large number of mounted Indians, but succeeded in holding its

position until several troops of the regiment arrived and drove off the Indians, pursuing them some distance up the valley.

Lieutenant, now Commissary General Weston, rode to where Braden lay, unstrapped an extra blanket from his saddle and left four men and a bugler to take charge of the wounded man, ordering them to put him in the blanket and take him to where Custer had established his headquarters. The bugler was to lead the horses and carry the carbines of the four soldiers, who carefully put Braden in the blanket, and each carrying at one corner, started for the field hospital.

It was necessary to go across several large ravines, and up and down hills. The bugler, who became scared, could not manage his extra horses and carry the four carbines, disappeared. This left the party unarmed. Then one of the contract doctors with the expedition appeared and said the Indians were coming back, and the carrying party had better hurry or they would all be killed. This message greatly accelerated the pace, and the party went as rapidly as possible. Some patches of cactus had to be crossed; the prickers were long, dry and brittle.

For a few minutes the men carrying the blanket were able to keep it from touching the ground, but they soon became tired and the injured man frequently hit the cactus. Many of the prickers went through the blanket into the flesh and broke off. It seemed as if every square inch of his anatomy that had come into contact with the cactus had at least a hundred of such broken spears. They afterwards were the cause of much pain and suffering.

After awhile the party reached headquarters. Dr. Ruger, brother of General Ruger, U. S. A., retired, pulled the pieces of bone out of the flesh and made the patient as comfortable as possible. There were no appliances to dress such a wound, and there was nothing to do but wait for the wagon train to arrive, which it did about sundown.

Dr. James P. Kimball, U. S. A., recently deceased, was the chief medical officer of the expedition. There were no splints or plaster bandages in the medical wagon, so the doctors, aided by a blacksmith and a carpenter, having obtained

a few pieces of boards by breaking up some boxes used for commissary stores, made a trough long enough to hold the entire leg. The trough, or box, was open at the top; across the bottom was fastened a tourniquet, which held two strips of adhesive plaster, about three inches wide, fastened one on the inside and the other on the outside of the leg, and extending up to where the bone was broken. On the left side of the box was screwed an iron rod, reaching along the body and bent at the shoulder so as to pass under the neck. Two other strips of adhesive plaster, about the same width as those used below the break, were put on the leg. One of these strips was stuck to the front of the body and the other to the back, and both were fastened to the iron rod under the neck. The object of these strips was to hold the leg in place and keep the ends of the broken bone from rubbing against each other, and to prevent, if possible, shortening of the leg. Before these strips of adhesive plaster were applied, the leg and body were shaved so that a better hold could be had by the plasters. It is unnecessary to say that the pulling in opposite directions of these strips was not one of the pleasant sensations to which humanity is sometimes treated. A cushion of tow and cotton was made for the box, and the leg, prepared as above described, consigned to what many said would be its last little bed.

The work of making the box and setting the injured leg was done after dark. The only light was from candles held by soldiers, and was very poor. The doctors said that the pain of setting the broken bone would probably be intense as no anesthetic could be given because none was on hand.

Two officers (one, Lieutenant, now Colonel Godfrey, the other's name cannot be recalled now) were asked to hold the patient's hands so as to keep his finger nails from being sunk into the flesh.

A majority of the five medical officers present favored amputation. Dr. Kimball told the wounded man the result of their consultation, saying that in either case the chances to survive the long journey ahead would be about equal if the leg was cut off or left on. The patient decided to keep his leg.

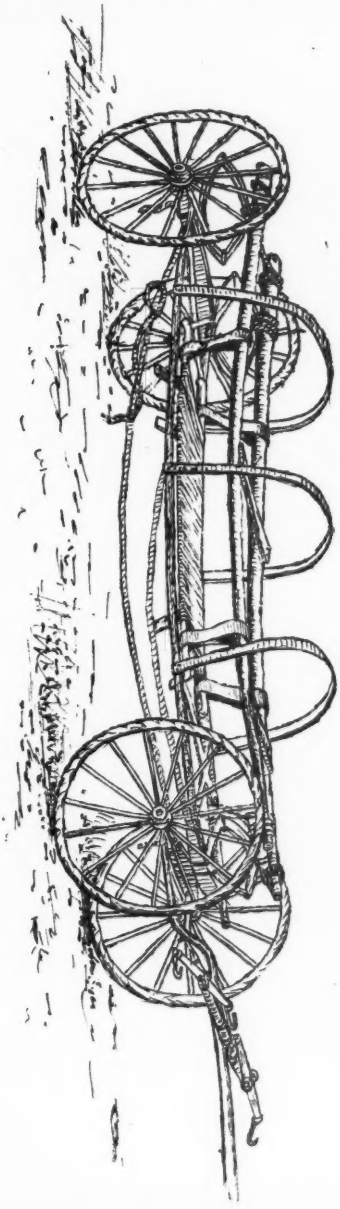
It was realized by everyone that the task of carrying such a severely wounded man was going to be serious. The expedition could not be delayed on his account. He, with the other wounded, could not be left behind with a small guard, for the command was not to return by the route it was to go. General Custer proposed that a raft of dry cottonwood logs be built and the wounded man, with two men as escort, be floated on it down the Yellowstone River to the nearest post, Fort Buford. The distance was about two hundred and fifty miles, and it was calculated that the current would carry the raft about four miles an hour. The floating was to be done by night, and during the day the raft was to be concealed in the bushes. Lieutenant Benjamin H. Hodgson, Seventh Cavalry, a classmate, afterwards killed in the Little Big Horn fight, asked to go along as one of the attendants.

The scheme was not approved by General Stanley, commander of the expedition, for various reasons. One of his characteristic remarks was that it would be more humane to shoot Braden at once rather than have him captured en route by the Indians or have his raft wrecked and he be drowned in the Buffalo Rapids, which were a short distance above the mouth of Powder River.

When the expedition moved out the morning after the fight the wounded officer, with a soldier who had a broken arm, was put in an ambulance.

In order to get the benefit of a beaten road the ambulance was to travel after the wagon train. The jolting of the ambulance was simply awful; the soldier with the broken arm got out and walked. After going about ten miles the doctor reported to the commanding officer that Braden was rapidly losing strength and could not last much longer, so the expedition halted and went into camp.

The next day a new plan was tried. It was proposed to carry him on a stretcher. He was put on one, and at first two men carried it. Each pair carried the stretcher till they were tired, when two others relieved them. Progress was slow, fatiguing to the men, and very uncomfortable to the occupant of the stretcher, who had no protection from the broiling sun. After going three or four miles in about five



IMPROVISED STRETCHER FOR LIEUTENANT BRADEN.

hours, the carriers were exhausted and camp was pitched. It was seen that this plan was a failure and suggestions were in order. The wagon-master proposed to rig up a conveyance and was told to go ahead. He used the running gear of an ambulance, took out the reaches and cut two small cottonwood poles about six inches in diameter and thirty feet long. The ends of the poles were securely fastened to the springs of the ambulance. Four slings, made of rawhide, were attached to the poles. Into these slings were inserted the handles of the stretcher. The slings were of such a length and so placed that the stretcher hung in the middle of the conveyance about eighteen inches above the ground. Wagon bows were fastened to the poles and over these bows was placed a canvas wagon cover to keep off rain and sun. The conveyance looked much like what are sometimes, in the country, called "stone-boats," where a low platform hangs from the body of the wagon.

The wheels of the rig were wrapped with hide. The object of this was to widen the surface so that the vehicle would run more easily. Wide tires would have been a great improvement, but the rawhide wrapping was not a success. It was all right while the hide was soft and pliable, but when it became dry and hard there was an uneven surface to the wheels which caused jolting.

On the underside of the stretcher boards were nailed so that the canvas could not sag. A thin mattress was put on the stretcher and on this the invalid lay. The next morning, when all was ready for the start, the handles of the stretcher were inserted in the slings and Lieutenant Braden was strapped to the stretcher so that he could not fall off. Two mules were hitched on, the driver riding one of them. When the mules started or stopped there was an unpleasant jerk, and the patient would have been thrown off had he not been tied fast. He did not mind the swaying of the stretcher from side to side but the longitudinal motion was unpleasant, for at every stop or start there was a jerk which seemed to make the ends of the broken bone rub together and caused intense pain. After the first day's trip it was seen

that the conveyance, with a few changes, would work very well.

Ropes were run from the handles of the stretcher to the opposite axles so as to prevent the longitudinal swing; a stick was nailed across the poles in such a position that Braden could hold on to it. The mules were given up and the wagon was hauled by men. A detail of thirty cavalrymen and three non-commissioned officers was sent, and at Lieutenant Braden's request, Lieutenant Smallwood, Ninth Infantry, a classmate at West Point, was detailed to take charge of the outfit. The detachment was divided into three reliefs of ten men and a corporal or sergeant. The reliefs were changed every hour. Ropes were fastened along both sides of the vehicle and to the tongue. One man walked alongside each wheel; two were at the end of the tongue to guide, and four others pulled at the rope.

The duty of the men at the wheels was to ease them over ruts or stones in the path. The change of motive power from mules to men was a great improvement, for the wagon was started and stopped without any jerking or jolting.

In order to have as good a road as possible, the outfit was made to follow the wagon train. A hospital steward and several attendants accompanied the party. About every half hour he inspected the condition of the patient. The steward was provided with a keg of water and stimulants, and occasionally gave a small quantity of brandy and water. When Braden became weak and exhausted, word to that effect was sent ahead to General Stanley and he always stopped for the day at the next good camping place. At first about one and a half miles an hour could be made under average conditions. One annoyance which could not be avoided, was the dust which was thrown up in quantities by the wheels and covered the stretcher and its occupant.

As the party moved along some wag remarked that the thing resembled the hook and ladder truck of a village fire department.

The command marched faster than the men could drag the conveyance, so the escort was usually from one to several hours late in reaching camp. Braden's tent was always

ready upon arrival, and the stretcher was lifted from its place and put on the ground, where it remained till the next day's march began.

The trip, for the first two weeks especially, was a severe and trying ordeal. No one expected Braden to live from day to day. On the eighth day the march was long, hot and dusty. It was nearly dark when his party reached camp. He was so covered with dust that his features could not be distinguished. A number of officers and men were waiting for him.

Dr. Kimball took hold of his wrist and said, "I can't feel a thing. I guess he is dead."

The report spread that Braden had died and preparations were commenced to make a coffin for him out of a wagon box.

After a couple of weeks the ends of the broken bone had begun to knit and mules were again put to the conveyance, but the four men were kept at the wheels till the journey's end.

It was frequently necessary to ford streams. When this happened one of the men would wade across first. If the water did not reach higher than a certain part of his legs, the conveyance would be dragged over, the bottom of the stretcher sometimes just skimming the water. If the water was too deep, the stretcher was taken out and six men carried it over on their shoulders.

Lieutenant Braden was hauled in this conveyance for twenty-eight days and in it traveled about four hundred miles, as measured by the odometer.

The last day's journey was on the 10th of September, when the reserve camp at Glendive, Montana, was reached. After remaining there some days the sick and wounded were put aboard the steamer *Josephine* for a trip down the Yellowstone and Missouri Rivers. The water in both was so low that the boat spent more time on sandbars than in motion, and it was early in October before Fort Lincoln was reached.

The leg was taken out of the box and the adhesive straps were removed sixty-two days after the fight. It was a long time to be in one position. During the trip, with no proper nourishment, the body became greatly emaciated, and the

flesh in several places was worn down to the bone, causing bad sores. To add to the discomfort, the cactus prickers above mentioned caused ugly little ulcers, which festered. The patient could not be turned over, and in order to attend to these sores, he was held up by six strong men, and the doctor, from underneath the raised body, dressed the ulcerations and put on collodion with a camel's hair brush. It felt like hot coals as the liquid touched the raw flesh.

Several incidents, perhaps worth relating, occurred during the long and awful journey. Two soldiers, one a Holland Dutchman named DeGeer, and an Irishman named Keegan, were detailed to attend Braden. Their tent was always adjoining his, and he could distinctly hear their conversation, and is probably one of very few persons who have listened to the details of their own funerals. One night, about the third or fourth day, when he seemed to be weakening rapidly, he heard Keegan say: "Well, when the Lieutenant dies he will have a dacent funeral. He won't be sewed up in a bag as were Honsinger and Ballaran, but he is going to have a real coffin made out of a wagon box. It has all been arranged." Honsinger, the veterinary surgeon, and Ballaran a post trader with the expedition, were killed by the Indians on August 4th. Their bodies were recovered before the Indians mutilated them; the red-skins had rifled the pockets of the dead men, but were chased away before they could do any scalping. The remains were sewed in canvas and carried one day before being buried. This was done to keep the location of their graves from the Indians, who would undoubtedly have dug up the bodies. They were buried at sundown the night after they were killed. A picket line was put over the burial place and the next morning the entire wagon train passed over it, completely obliterating every sign of a grave.

Keegan and DeGeer were fluent talkers, and their conversation and arguments was the source of much amusement to the wounded officer. The poor, faithful fellows did not attend his "dacent funeral" as they expected to do, but were, it is believed, afterwards killed in the "Custer massacre."

One day an early camp was made near "Pompey's Pil-

lar." Several hundred of the men were in the river and others were washing clothes. Suddenly a small party of Indians, concealed in the bushes across the river, opened fire The bathers lost no time in getting out of the water. It was a ludicrous sight to see the men, some carrying their clothes, scurrying for camp. Fortunately no one was hit. The Indians quickly mounted their ponies and scampered off before any of our men could shoot at them.

One night Braden's tent was pitched on a patch of dried grass. Early next morning (reveille was at three, breakfast about four, and the advance at five every day) when the striker came into the tent with breakfast, he put his candle on the ground. The candle tipped over and set fire to the grass. The blaze was noticed at once by Braden, who used his lungs to such good advantage that in less than a minute fifty men or more were there. They cut the tent ropes, threw down the tent, and stamped out the fire. It was a narrow escape for the helpless man.

The last day of the eventful journey was on the 10th of September, just thirty days after the fight. The steamboat *Josephine* was in sight, and the end of a tedious journey was within an hour of its close. Suddenly the mules hitched to the conveyance started to run, and ran a mile before they could be stopped. In crossing some patches of cactus, the hoofs had knocked off some dry pieces; a number of these had hit the bellies of the animals and the pain caused a stampede. No damage was done, but imagine the feelings of the helpless occupant of the wagon, who expected an upset, or a breakdown, when the promised haven of rest was so near.

Dr. Kimball took personal charge of Lieutenant Braden's case. He was taken from the regiment and kept with the headquarters of the expedition. About ten days before Glendive was reached, on the return trip, the Seventh Cavalry, under Custer, was directed to cut loose from the main column and take a short route to Glendive, through the "Bad Lands." The infantry with the wagon train was to go where it was known they would have a good trail.

An exceedingly pretty and thoughtful incident happened the day Custer separated from the main command. It may

best be described by the following extract from a letter written by him to Mrs. Custer, and published in her book entitled "Boots and Saddles." * * * "Our mess continues to be successful. Nearly every day we have something nice to send to Lieutenant Braden. Only think of him with his shattered thigh, having to trail over a rough country for three hundred miles! He is not transported in an ambulance, but a long stretcher arranged on wheels about thirty feet apart, pulled and pushed by men on foot. They carry him much more steadily than would horses or mules. It requires a full company of men each day to transport Mr. Braden in this way. He is with the main command, but was doing well when we left. The day the command divided I had the band take a position near the route where the rest of the expedition would pass, and when he and his escort approached they struck up 'Garryowen.' He acknowledged the attention as well as he could."

The acknowledgment consisted of reaching out under the cover and waving a handkerchief.

All of the officers of the Seventh Cavalry assembled to greet their wounded comrade and wish him a safe and pleasant journey. The day Custer left the main column it turned toward the Yellowstone River. The march continued till after dark. No water was found, so a dry camp had to be made. Only a few tents were pitched and the mules were not unharnessed. Some miscreant stole Braden's water keg. It was a contemptible thing to do under the circumstances, and he would have fared badly, with no water to bathe the inflamed wound, had not a small quantity of this necessary liquid been husbanded by the hospital steward. The thief had he been known, would have been roughly treated by the attendants.

General Custer had taken his cook, a colored woman named Eliza, along. Late at night, the day of the fight, while the doctors were busy dressing the wound Eliza came to the tent. She brought a *lemon*, saying it was the last one left in the General's mess, and that it would do Mr. Braden more good than any one else. Kind-hearted Eliza! it surely was a very thoughtful act on her part.

Afterwards, whenever the cavalry camp was near headquarters, Eliza always made some good nourishing soup and sent it over. Had it not been for her kindness Braden might have starved.

Captain Andrew Burt, Ninth Infantry, now Brigadier General, retired, was with the expedition. He was a great hunter, and whenever he succeeded in getting some game, always sent a generous share to Braden. Another gentleman to whom Braden was indebted for a number of kind acts was a Mr. Barron, correspondent of the New York *Tribune*. Mr. Barron is, it is believed, now a clergyman and editor of a religious journal published in Boston.

Upon arriving at Fort Lincoln Lieutenant Braden was taken to the post hospital, a ramshackle, wooden structure, situated on the high bluff where the infantry post was located. The only ward was occupied by enlisted men, so Braden was taken to the attic where there was no heat. Through holes in the roof the stars could be seen at night and the sky in the day time. Between the rafters, where they rested on the frame, was an open space. The place was cold, extremely desolate and dreary.

A few days after being put into this attic, a driving snow storm came up during the night. By morning several inches of snow had drifted in through the openings, and it covered Braden's bed with a shroud-like mantle. He was then taken down stairs and his bed placed in the dispensary. There was some warmth there from an old stove, but it was not a pleasant place for an invalid, as it was also the doctor's office, and sick call was held there.

When wounded he weighed about 180 pounds. After being able to hobble on crutches, the commissary scales at Lincoln showed his weight to be only 125.

Could Braden have been taken to a hospital soon after the fight, he might have recovered with quiet and proper care, but the wound completely disabled and unfitted him for further active service. He was subsequently retired as a first lieutenant. The leg became shortened nearly two inches and partially stiff at the knee, but part of the knee stiffness was probably due to an accident at West Point six months

before graduation, when a horse fell with him in the riding hall and injured the knee-cap. For eight years there were two running sores on the leg, from which, before final healing, thirteen pieces of bone, several chips of lead, and fragments of clothing were taken. An X-ray picture made at West Point some years ago shows that many more pieces of bone never came out, but were caught in the callous that formed around the ends of the broken bone.



OUR CAVALRY.

By Major JOSEPH A. GASTON, First Cavalry.

FROM the earliest times horses have been used for war purposes, and whether they have been driven in the chariots of the ancient Egyptians or Romans, or ridden by knights or cavalrymen of later days, the horse has always proved an important weapon when in the hands of those who knew how to use him to the best advantage.

From time to time, with improved arms, it has been contended that the days of cavalry were gone. This opinion was scarcely formulated, ere up rose some genius in his line and proved to the world that he had grasped the changed conditions, and that the mounted soldier was then, as he had always been, a necessity to any army. To-day the cavalry is the only arm of the service which can stand alone. The artillery needs a support from one of the other branches. The infantry needs the cavalry to do its reconnoitering, while the cavalry goes anywhere—everywhere—alone, and is prepared to face anything except possibly a balloon or a warship.

When our Civil War was being fought European powers were surprised to learn that cavalry, North and South, was fighting dismounted as infantry or charging mounted as cavalry, indifferent as to which they were called upon to do. The cavalry charges of Winchester, Gettysburg and elsewhere show that they were cavalry in the old sense of that word, while Sheridan's cavalry passing Lee's army on its retreat in 1865, taking post dismounted in its front and holding Lee until the arrival of the infantry, shows what dismounted modern cavalry can do. Sheridan and Stuart startled the world by their raids. The damage done by those raids can scarcely be estimated.

To-day the lessons taught by our Civil War are accepted

abroad at their true worth, and the campaigns of 1861–5, as well as those of Napoleon, are studied in their schools and cited as object lessons in war.

The German cavalry in 1870 were the eyes and ears of that army. The French knew nothing of the enemy, while the Germans were kept constantly informed.

Against the Indians on the plains, or in the mountains of New Mexico or Arizona, it was the cavalry which was called upon to do the work. On the plains, because the infantry could not keep up, and in the mountains, strange to say, for the same reason.

In our recent Spanish War, the cavalry was given no chance. Owing to the lack of transportation, the horses could not be taken to Cuba. Well drilled troops were few in number. The cavalry could not be left behind and willingly went dismounted and fought as infantry. Their record at San Juan Hill is engraved in the hearts of their countrymen.

After the Spanish War the necessity for cavalry in Cuba and the Philippines was soon recognized. In the former, to preserve, in the latter to compel peace. The horses were transported with some difficulty and at great expense. At first our American horses did not seem to be able to do their work, but it was soon learned that by clipping the horses and allowing them time to become acclimated and accustomed to the food products of the tropics, they were prepared to do their work there as well as in the temperate zone. The cavalry in Cuba policed the island and did excellent service. In the Philippines, in active warfare against the natives, whether in the mountains or in the rice fields of the valleys, they performed distinguished and invaluable service, and added another laurel to those already won by the American cavalry.

But little use of cavalry has been made in United States for street fighting, but it has been extensively used abroad. A charge of cavalry with sabers drawn frequently dispersing a mob, and thus preventing the necessity of using fire arms and the unnecessary, but consequent slaughter of the innocent as well as the guilty.

The equipment of modern cavalry is a very important question. Our cavalry should be prepared to meet the best cavalry the world affords, and our equipment should be of the best. In the opinion of the writer many improvements could be made. Our bridle and bit could both be improved. The blanket is excellent. The saddle is not nearly equal to the best stock saddles in the shape of the tree and should have what the stock saddle has, the double cinch, higher arch of the pommel, and a rough surface under the side bars to prevent the saddle from slipping.

The arms should be the carbine, pistol and saber, as at present. The new Springfield is said to be an excellent gun, and as the same gun is to be used by both infantry and cavalry, it will place an infantryman and a cavalryman on an equal footing as far as the effect of fire is concerned.

The caliber of our pistol is entirely too small and should be sighted for short ranges only. The saber should be sharpened and carried in a scabbard which would not make any noise nor destroy the edge of the blade. No bright metallic surfaces should be allowed in cavalry equipments.

Our pistol holster is not equal to those used by the cowboys of the plains. In addition, in order to supplement our fire, it is recommended that a machine gun be assigned to each squadron of cavalry. The Hotchkiss and Maxim are the most highly spoken of.

A modern cavalryman should be almost equal to anything. In addition to his regular duties of screening his army and fighting both mounted and dismounted, our cavalrymen have at times been called upon to demolish obstructions, make roads, build bridges, or perhaps act as disbursing officers or governors of large provinces, or perhaps to shoe a horse; signal a ship, use a telegraph line, or perhaps minister to the wants of a sick or wounded comrade or horse in the absence of the medical department, or even to build a bake oven. For the cavalry soldier to learn to ride his horse, and to properly care for his horse and himself, to properly use his arms, perform outpost and reconnoitering duty, learn signalling—rough sketching and how to make reports—the rules of military hygiene and all the various

details of guard duty, drills, both mounted and dismounted, and the customs of the service, takes years of constant service. It is a very expensive experiment in men, horses and money, to use volunteers for cavalry duty in time of war. Volunteer cavalry may be of great assistance. At the best is is only mounted infantry, and can not take the place of well organized cavalry. In order to have good cavalry when a war breaks out, it is necessary to keep it up in time of peace. It is not possible to organize it on the outbreak of war. Hence its proportion in time of peace should be large. When war breaks out, well trained infantry is a necessity, but raw recruits can be much sooner drilled into shape for infantry than they can for cavalry.

The infantry at the outbreak of war can be very largely increased, but cavalry can not, and while a troop of cavalry can be quickly filled up to its maximum strength, each old soldier has his time fully occupied in instructing the new men. A troop of cavalry thus reorganized is incapable of breaking up into small detachments and performing the full duty that is expected of good cavalry.

Raw cavalry cannot be expected to properly perform full cavalry duty. Aside from its lack of knowledge it lacks discipline. Our regular cavalry gradually weeds out undesirable men and thoroughly disciplines the rest. License spreads rapidly among undisciplined soldiers in time of war, and an undisciplined cavalry regiment in front of our army in time of war might and probably would, cause untold suffering among non-combatants, to the discredit of our arms and our reputation as a civilized nation.

The question then arises how much cavalry should our army have in time of peace. The only answer is, as many as the country can afford. While on this subject it may be well to note that General U. S. Grant found that his force of artillery obstructed the roads and he sent back to Washington all he thought he could spare. He kept his cavalry and infantry, and would undoubtedly have been glad of any increase of either of those arms.

The necessity for large bodies of cavalry on our Indian frontier no longer exists, and those not necessary on our

frontier, or in the Philippines, could more profitably be kept in the vicinity of our large cities.

By keeping cavalry on the frontier, its cost to the government is much greater on account of railroad freight bills for forage and other supplies. Railroads keep their surplus cars in the yards of large towns. Troops near those centers can be moved much more expeditiously than those farther away. Our present policy of quartering troops near large cities is undoubtedly the correct one. In 1885, on the outbreak of the Apache war, similar orders were wired at the same time to Fort Clark and San Antonio, Texas, for cavalry to proceed by rail to Deming, New Mexico. The troops from San Antonio reached Deming one day sooner than the Fort Clark troops, although they had about 140 miles farther to travel.

To meet changed conditions, many questions arise from time to time concerning improvements in the arms and equipments, and some person should be held responsible for the condition of such an important and expensive arm of the service as the cavalry. For these reasons our cavalry should have its own head in the War Department to be known as the chief of cavalry. To him should be referred all questions concerning the cavalry, and in a joint conference with the chief of artillery, and the chief of infantry, who should also be appointed, all questions concerning the line of the army could be settled for the best interests of the service.

A cavalryman of the best type is essentially a man of action, quick to grasp a situation and equally so to act. He is full of *esprit de corps*, has a high sense of honor and duty, and his enthusiasm is only held in check by a well tempered discretion and judgment.

In the appointment of a chief of such a body of men, the greatest care should be exercised. Only one who has had long and meritorious service in the cavalry, and who thoroughly understands its capabilities and necessities, should be deemed worthy of such an exalted position.

To such a chief our cavalry would at all times be ready to respond, and show by its deeds that it was prepared to live up to the glorious traditions of its past.

FIVE YEARS A DRAGOON, ('49 TO '54) AND OTHER ADVENTURES ON THE GREAT PLAINS.

PART IV.

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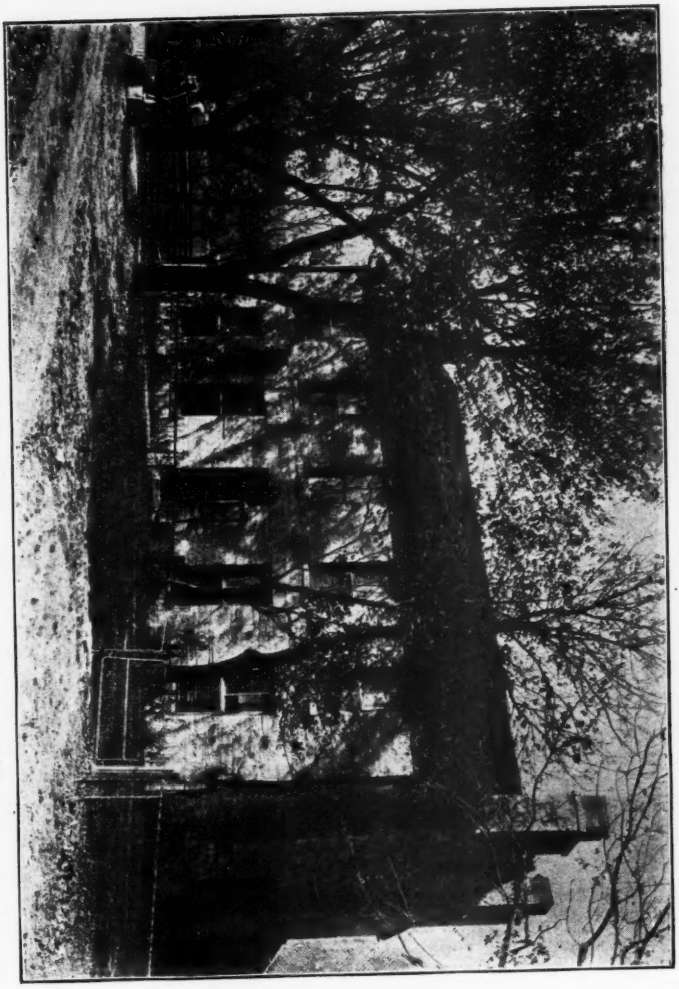
ON the second day of July, 1854, headquarters First Dragoons, "B" and "D" Troops, with a large number of army officers, some families, a large supply train and 600 extra horses led on strings of about forty horses each, left Fort Leavenworth for Fort Union, New Mexico, Colonel Thomas T. Fauntleroy commanding.

From start to finish, the two troops alternated daily in front and rear guard. During my experience I had never campaigned with another troop, hence did not know very much about the management of other troops on the plains and I learned to think "B" nearly as perfect as the conditions permitted. I was as proud of it as I ever have been of anything under my immediate charge. On every hand the troop attracted attention—the manner of marching, care taken of their horses, appearance of horses and men, the short time necessary to put up their tents, and the lightning speed with which they were struck, folded and loaded in the wagons, the neatness and dispatch in everything, and the quietness and lack of confusion on every hand, seemed a wonder to many of the officers of long experience. There was no special effort on this trip more than on others, but somehow we were settled down to one way of doing—a uniformity of thought and action—changes were few and only when circumstances forced them. Officers and noncommissioned officers did not have to reiterate from day to day and from camp to camp, for no man could plead ignorance of a general routine, hence there was little friction; the men had grown into the habit of taking pride in doing everything,

having "some style about them," as McDonald used to say, and every man had grown to know that he must do his share cheerfully, all working together for the general good.

"D" Troop was composed of a fine lot of men and drilled well, but they had been stationed for some years at Fort Snelling, and did not have the long summer campaigns that B had, and for that reason were not up to the daily routine of making themselves comfortable. Most of the men were comparatively new to campaigning, and while fine garrison soldiers, had much to learn and to suffer before they could hope to compete with men who had traveled from 1,500 to 3,000 miles every summer, always in an Indian country, always on the alert and obliged to move with little transportation, little or no forage save the grass that grew in abundance everywhere, and with short rations, depending largely on game which was also generally abundant. Of course, more or less recruits were received every winter (generally fore part of winter) from Carlisle Baracks to replace those discharged, etc. These recruits had special attention in drill, and imagined they were full fledged soldiers by the time we went on the plains, but soon found that half was not learned.

A good deal can be done to discipline men in garrison; but in the field, on the march, in bivouac under the blue sky, in storms, cold and heat, on the trail, caring for self and horses, with always a helping hand for comrades, bearing cheerfully every hardship, there was where the thorough dragoon was made, and a man in his first year's service was not worth half as much as in after years. This applies to a troop where three-fourths of the men were "old soldiers," which includes all men after the first year. This being true, how about a troop or company where there is not more than half a dozen who have seen service before? Take the experience of any man who has served in the regulars and volunteers. See the amount of sickness in the latter compared to the former; see the difference between strict discipline and the reverse; see the comfort of one against the suffering of the other under trying circumstances; see the difference between men who accept their instructions as iron-



KAW INDIAN MISSION AT COUNCIL GROVE. ERECTED IN 1850.

clad law, never doubting the correctness thereof, and men who argue the point in their minds, if not aloud, the instructor himself in doubt, lacking confidence in himself and the men he addresses—"the blind leading the blind." To hear the rabble, and politicians in particular, talk of how "our brave volunteers" performed such and such feats in battle, one would think the regular army did not amount to anything, and were only a stumbling block in the way of the "gallant men" of this or that State. Who ever doubted the courage of any respectable American—the peer of any man on earth? Surely, not I. But how can a man know anything until he has learned it? Is there any sense in marching young men, after a few months of camp life, into battle against disciplined troops? It won't do to tell us they are brave. Who doubted that? The fact that he is brave does not make his adversary less brave nor his aim less accurate. To stand up and receive the death blow because too ignorant to avoid it, may be admirable, but it is pitiable, and no credit to the nation that places men in such a position. No country on earth has superior material for soldiers, but it is no credit to the United States to expect this material to be transformed from peaceful pursuits to military experts in a few months to meet the stern necessities of battle.

Some one may point to the performance of the First Volunteer Cavalry ("Rough Riders") at Santiago to prove that the very best work was done by that regiment. Such comparison is no criterion. Nine-tenths of them were men who had lived for years in the field, in the mountains, on the plains, accustomed for years to Indian warfare; the best shots and the best horsemen in the world; accustomed to follow the trail and protect themselves and their property everywhere. Turned loose anywhere, singly or in squads, they were self-supporting. Even that portion of the regiment which came from the colleges and society circles of New York were remarkable for athletic accomplishments of all kinds, including target practice. Probably there is not on record an organization of similar numbers where each individual was so nearly self-made and self-reliant as this. The Colonel had distinguished himself as an Indian follower and

fighter in the regular army in Arizona and Mexico as few men ever did, and the Lieutenant Colonel from boyhood up had trained himself in every line of athletics; had ranched with the cowboys of Dakota, Wyoming and Montana, and was the champion hunter of big game in the United States. In his experience in public life he had learned human nature in every grade, and above all, at the age of most complete manhood — not too old for strength and energy nor too young for mature judgment — had learned self-control and the management of men. With their superb courage and patriotism, no wonder Colonel Wood and Lieutenant Colonel Roosevelt led that magnificent band of men, equal to those who died with Crockett at the Alamo, to glorious victory. It will not do to compare this regiment with average volunteers. Every man was a soldier, tried in a school than which there is no better in America. But the officers and men of this regiment will ever stand in respectful acknowledgment of the grand old regulars, who were shoulder to shoulder with them, and without which there would have been few of the "Rough Riders" left to tell the tale. Dogged, stubborn discipline came in time to mingle with desperate gallantry at the crucial moment. Young America, I honor your courage and manhood, but keep your eye on the regulars, and when you want to be a soldier enlist in a good company, in a good regiment, and go to a home where order and decency prevail, and every well behaved man finds peace and comfort.

Of course there was the usual confusion of starting a big caravan on a long journey, but things improved from day to day. Our troop had easy times compared to other organizations. After passing Council Grove, guards were doubled, as they always were on the route west, always expecting depredations of some kind from the Indians if the utmost vigilance was not maintained.

On Coon Creek, now in Edwards county, we met Kiowa Indians in great numbers, mounted on fine horses. They cavorted about us, saucy, insolent and defiant, in fact it looked like trouble was inevitable. "B" was advance guard, and as we were strung out on the road, "D" was more than two miles in rear. Our horses on strings were a great temp-

tation to the Indians, and they could have charged in and stampeded the whole lot with little loss to themselves. Colonel Fauntleroy was riding with Major Chilton and other officers ahead of me, as I rode at the head of the troop, and I heard the conversation. I saw that the Colonel and the Major were disagreeing, and finally the Major lost his temper and said with some spirit, "Well, if I were in command I would corral these trains and horses and wipe these Kiowas off the face of the earth; this is no way to deal with Indians." In answer the Colonel ordered the Major in arrest and to the rear. The Major turned, his eyes flashing, his bristling mustache looking unusually fierce, and rode to the rear. He had taken his last ride in front of his troop. Lieutenant Hastings was detached from the troop, acting commissary officer, hence, when the major was arrested there was no officer left in command of it. The Major had been consulted all along about camps, and had been of great service. Immediately after his arrest, the Colonel called me and said he wanted to go into camp. It was about 11 o'clock. I told him he could not find a better camp than about where he was, where the town of Kinsley now is, and at his order I rode off to assist the quartermaster, Captain Mastin, to arrange the camp. To the troop I gave the order, "Dismount! Graze your horses!" The Colonel looked surprised, but said nothing. I was carrying out a standing rule to rest and graze the horses at every opportunity. I was an hour with the quartermaster, during which time the troop were enjoying the finest grass on the plains.

This camp was made more compact than any we had heretofore, and the guard considerably strengthened. It was but a few miles from the old battle ground.

I reported to the Major after retreat and guard mount for any suggestions he might desire to make. Evidently he felt chagrined at the position he was placed in, and anxious that whatever happened his troop should not be found wanting. While we were talking, Lieutenant Robert Williams called and stated to the Major that he had been detailed to take command of his troop. He had called to pay his respects and to learn from the Major anything he desired to



FAMOUS KAW CHIEFS.

Al-le-ga-wa-be. Wah-ti-an-gah.

Kah-he-ga-wa-ti-an-gah, known as the "Fool Chief."

impart concerning it. The Major thanked him and said about as follows: "This is Sergeant Lowe, Lieutenant Williams. He has been first sergeant more than two years, knows all about the troop, and will certainly serve under you as faithfully and cheerfully as he has under me. I congratulate you on being detailed to command my troop. You will not be likely to have any trouble with it." Lieutenant Williams commanded the troop two days, when Lieutenant Hastings took command. Lieutenant Williams was one of the best specimens of manhood that I ever met. Nothing ruffled the even tenor of his ways; he always spoke in the same gentle tone, the same perfect English, in the same refined manner. I conceived a friendship for him that a more intimate acquaintance in future years increased to admiration. He was one of the most refined and noble characters I ever knew. His military service ended with his retirement as Adjutant-General of the Army in 1893 on account of age.

On leaving the Coon Creek camp we moved out in double column, troops traveling by fours, wagons and horse strings two abreast. The rear guard furnished a line of vedettes along the bluffs, and orders were strict to keep everything closed up. A few days later we crossed the Arkansas at Cimarron Crossing, thirty miles above where now stands Dodge City, and camped on the south bank. We seemed to have left the Indians all behind, twenty miles below, and the talk that the Colonel had with them the evening before indicated no trouble.

The camp was west of the road, extending up the river fully a mile. "D" Troop was at the upper end (west); "B" was rear guard that day and camped just west of the road, forming the left flank of the camp, the wagon train, except headquarters, company and officers' transportation, was well to the front (south), away from the river, and the horse strings immediately in rear, while headquarters, officers' families, etc., were strung along the bank of the river between the two troops. A bend in the river where "B" troop was, threw it north of the east and west line of the other camps. The ground occupied by the supply train, the horse strings and

"D" Troop was sandy and treacherous. Picket pins went down easily and were easily withdrawn. Our camp occupied firmer ground, and with care we made our horses perfectly safe, knowing well the terrors of the stampede, taking in the treacherous nature of the ground occupied by all except us, and the fearful effects of hundreds of animals with lariats and flying picket pins sweeping over our camp. We hugged the bank of the river below the bend closely, occupying as little room with tents and the two company wagons as possible, and arranging horses so that a direct stampede east would pass them. In other words, a stampede would have to come around the bend to strike any part of our camp.



AH-KE-TAH-SHIN-GAH,
A Typical Indian Brave.

It was noticed by all of our troop that the 600 led horses were always badly picketed; that is, picket pins driven half way down and in many cases two or three lariats tied to one pin. A stampede had been feared by all of us. The man in charge of the horse strings was very ill most of the time, and each man in charge of a string of horses seemed to have no conception of the crash that was sure to come sooner or later. "D" Troop did little better than the horse

strings and "B" was spurred up by me and other noncommissioned officers to see that every picket pin was securely driven in the best ground. I have seen men stick their picket pins in an ant hill because it went down easily. Such a thing in our troop, or the fact that a horse got loose in any way, unless proven to be no fault of the rider, would insure his walking and carrying his arms the next day. Carelessness in picketing horses would not be condoned on this or any other trip that we ever made. A stampede was the terror of terrors on the plains, and this location was like camping on a volcano liable to erupt at any moment.

It was a perfectly bright, starlit night, and peace seemed to reign from end to end of the camp. Visiting was general among the officers, and a feeling of safety prevailed, now that we seemed to be clear of trouble with Indians. A little before nine o'clock the earth seemed to tremble as if in the violent throes of an earthquake. Like a whirlwind a stampede commenced with "D" Troop horses, rushing down through the extra or "led" horses and on through the mules, sweeping everything before it, barely missing officers and B Troop camp. On they went a little south of east down the river, in the mad rush trampling everything under foot, upsetting and breaking a dozen six-mule wagons by catching picket pins in the wheels as the moving mass rushed on; picket pins whizzing in the air struck an object and bounded forward like flying lances. To condense: "D" Troop lost two-thirds of their horses. All the string horses (600) and 600 mules, besides some private animals, were in the mad rush of destruction. One "B" Troop horse, an extra, succeeded in joining the gang. Realizing the full meaning of the terrible calamity, I ordered "boots and saddles," and when Lieutenant Hastings, who was visiting some officers arrived, the troop was ready to mount. The quartermaster sergeant was left in charge of the camp with a cook and bugler. Lieutenant Hastings rode over to headquarters and reported. Returning immediately, we mounted, and were off in the direction of the stampede. A few young officers en route to join their troop in New Mexico, and who were fortunate enough

to have their horses down near the river out of the line of the stampede, mounted and struck out.

The stampede was a mystery at headquarters, one opinion being that it was caused by Indians, another that wolves had frightened some horses and they had started all the others. There was more experience in "B" Troop than in the balance of the command, and the conclusion was that it would be no trouble to bring about a stampede from either cause. One Indian in a wolf skin might have done it, or one horse fright-



"PIONEER STORE" ON THE TRAIL.

ened at anything running the length of his lariat and scaring a few more might bring about the whole thing. We did not believe that any number of Indians were near us, or were making any hostile demonstrations. In short, the treacherous character of the ground made it unfit to picket a large number of horses and mules, and the stampede was almost a matter of course. We might have escaped such a calamity as inexperienced campaigners sometimes do, but the chances, considering the number of animals and want of care were against us.

It was nine o'clock when the troop started on the trail, feeling its way out through the wilderness of wrecked wagons, crippled and dead horses and mules and their lariats and

picket pins, met with in the first two miles, within which nearly a hundred horses and mules were found dead or injured by being pierced with flying picket pins or by being tangled in the ropes and dragged. We did not stop for any of these, but rode on to head off those animals that had escaped in a condition to travel. Within five miles of camp we headed off probably 200 mules. Most of them had broken their lariats and lost their picket pins by being trampled upon by other animals. We rounded them up and sent half a dozen men with them, following the river bank towards camp. Then we spread out and in a mile or two, rounded up another large band, nearly all mules, and sent another squad of men with them. It was my experience then, and always has been in a stampede, that mules tone down after a short run, whereas frightened horses never know when to stop, and run until exhausted. A herd of mules without horses to lead them in a stampede will hardly ever run more than two miles, circle around a little and then either stop to graze or strike a trail at a moderate gait. Within twelve or fifteen miles of camp we had turned back with different squads of men probably 400 mules and half as many horses; and now Lieutenant Hastings and three or four men started back with quite a band, mostly horses, leaving with me about twenty-five men. Following the same tactics and having driven in whatever we could find within a few miles, a small squad of men was started up the river towards camp. A couple of young officers, Lieutenants Lloyd Beall and —— Craig, joined me with quite a band of horses about daylight.

At that time I was with a few men in the sand hills, probably a mile from the river. We swung around driving about sixty horses before us towards the river, and suddenly found ourselves close to an Indian camp, a little below it. There was no changing our course so as to avoid the village altogether without abandoning our captured animals. I put spurs to my horse to get between the horses and the Indian camp, followed closely by Hand and the two officers. The horses did not seem to notice the lodges until close on to them, and we rushed through the south edge of the village at a fast gallop. In the meantime the dogs set up a terrible



CHEYENNE CHIEFS.

barking, and as we looked back the whole camp seemed to be alive, as men, women and children hustled out of their lodges. Attracted by a large number of Indian horses, two of ours started to join them. Craig made a break to herd them off, and pistol in hand chased them through the Indian herd. Beall joined Craig and with the two horses joined my party in little more time than is necessary to tell it. And now the sun was coming up; we had ridden our horses at all sorts of gaits seven hours. In the band we were driving were several good ones. We rounded them up in a bend of the river and made a change and helped Beall and Craig to change. Knowing that the Indians would be soon scouring the country for horses, and with my small party of men I could accomplish nothing, I determined to scatter out 200 or 300 yards apart and drive all we could find to camp. I knew that the camp we had passed was composed of Kiowas and Comanches, about thirty miles below our camp. When about twenty-five miles below our camp, I saw horses on the opposite side of the river. They must be a part of ours that had crossed over; they were loose and grazing. Through my glass I could count about a dozen. Leaving the balance of the party to go on, driving everything they could before them, I took three men and crossed the river. Below the horses first seen there were no signs of any having passed down. We drove before us all that we saw and probably all on that side and arrived in camp near sunset with thirty-two. At retreat roll call every man of "B" Troop answered to his name. Among the big bands brought in by Lieutenant Hastings and others the dismounted portion of "D" Troop found mounts, and with citizen employees did good service in gathering in and caring for horses and mules.

To the fact that "B" Troop was able to mount promptly, and work systematically and vigorously, Colonel Fauntleroy owed his ability to move without abandoning many wagons, only a few that were badly wrecked. If pursuit had been delayed until morning the Indians would have had most of the horses. It did not take them long to scour the country and pick up what we left. They brought a good many to the camp for which the Colonel paid them.

Two days after the stampede we recrossed the river and found a fine safe camp on the north side.

Nearly all mules not killed or fatally crippled were saved, so that we were short only about fifty. About 150 horses were dead or desperately crippled, and many more not accounted for, probably found by Indians after we left; shortage, 200 or more.

Lieutenant Beall had been in arrest ever since we left Fort Leavenworth, and now he was released. He volunteered to go in pursuit of the stampeded stock, and on Craig's report he was restored to duty. This I understood at the time. Eight years later Captain Craig told me at Fort Union, where he was then quartermaster, that on the way to camp after I left to cross the river, Beall said: "Why the —— didn't I think to lead off after those two horses? Here I am a first lieutenant and you just from the Academy; I am under a cloud and ought to have done something to recommend myself." "You did," said Craig, "you followed those horses through the Indian herd, pistol in hand (which was true, following the example of Craig), and I shall so report." And that report induced Colonel Fauntleroy to release Beall.

The history of these two men is interesting. Beall was a captain of artillery at the commencement of the Civil War, resigned and enlisted in the Confederate Army. Dr. M. S. Thomas resided in Leavenworth previous to the war, joined the Army of Northern Virginia as a surgeon, and after the battle following the capture of General Pope's headquarters, while riding over the battlefield near a Confederate battery he recognized a dog that used to belong to Beall at Fort Leavenworth. He knew that the dog was not far from his master, and proceeded to investigate. He soon found Sergeant Beall. A long conversation followed, in which Beall stated that many times he had been recommended for promotion, but on account of his reputation for drinking his endorsements were overruled before they reached the appointing power. I do not know his end. Colonel Craig married a wealthy lady in Ohio, resigned from the army at the close of the war, prosecuted a claim to a large Spanish

grant of land in southern Colorado, won it, and was independently rich, and died before he was fifty.

Colonel Fauntleroy sent for me and said some very nice things to me and of the troop, but there was no mention of the happenings in "orders." I take it for granted that Colonel Fauntleroy included the stampede in his report to the War Department, and that the quartermaster, Captain Mastin, reported the loss of public animals and other property, but no mention of it in newspapers, nor in "orders" anywhere. Men were supposed to do their duty without hope of special commendation. A troop that would do now what "B" did then would be commended by the colonel, by the department commander, by the division commander and by the general of the army in his annual report.

After recrossing the river I called on Major Chilton as soon as I could. I never saw him better pleased with the troop. "B Troop saved the command," said he. "Mr. Hastings tells me that you had 'boots and saddles' sounded and the troop ready to mount when he reached it after the stampede. I am glad you were so prompt and did not wait."

And now we moved off up the north side of the Arkansas by easy marches for several days, on up the river to Bent's Old Fort, and crossed; thence south to Timpas, Water Holes, Hole in the Rock, Hole in the Prairie, crossing Purgetwa—generally pronounced Picketware—below where Trinidad now is.

It was nearly 100 miles farther by this than by the Cimarron route to Santa Fe, hence it had been abandoned; had not been traveled since the Cimarron came into general use. Trees had fallen across the trail, mountain torrents had made great gulleys, and it took Lieutenant Craig's pioneer party—details from "B" and "D" Troops—several days to make the road passable. In the meantime our animals had the finest gramma grass I ever saw, and I never saw animals improve so much as ours did in so short a time.

One day while camped here Sergeant Peel went hunting; he was riding a mule, and when a mile or two from camp a thunder storm overtook him, and he sought shelter under a thick clump of pines. A flock of turkeys ran under a big,

low branched pine, not more than ten yards from him. The rain and hail came down in torrents while the wind blew a fearful gale. Peel had tied his gentle mule securely, and deliberately shot seventeen turkeys, every one in the head. They seemed to think the crack of his rifle a peal of thunder, and the fluttering of the dying turkeys did not frighten them. He finally wounded one and it flew away, the balance of the flock—half a dozen—following. Peel came into camp about dark with all that his mule could stagger under.



GROUP OF KAW INDIANS IN FULL DRESS.

Just before this storm I had marched my detail for guard to headquarters, and guard mounting was just over when the storm struck us. I put spurs to my horse and rode with all speed for camp. I had crossed a dry ravine going, and returning found a mountain torrent. I very imprudently dashed through it, looked back and saw a tree a foot through going down at railroad speed. A second later and I and my horse were hopelessly lost. As it was, nine horses out of ten would have failed, but my noble "Bruce," with courage that knew no faltering, having full confidence in his master, landed me safely and bounded away as if there was nothing the

matter. This horse was my special pet; every soldier's horse ought to be. It may be a little hard for a good soldier of fine feelings to pet a miserable plug, and on the other hand, it may be a little hard for a good horse to think much of his plug master—both combinations that ought not to exist. Good men and horses having faith in each other will follow the right kind of leader to victory or annihilation without a murmur. The horse need not be of any particular strain of blood so that he is of a saddle horse breed, made to gladden the heart of the proud man who rides him; not a thick shouldered, fat headed, short stepping thing, only fit for a huckster, but a horse with flat, muscular legs, short back, well quartered, well cupped sound hoofs, high crest, lean head, bright eyes and brainy. With this latter combination, he may be Spanish broncho, Arabian, Kentucky thoroughbred, or mixed—never ask a man to ride a plug off the farm where he is used to plow. One of the greatest mistakes this government is making is in not using a part of the Fort Leavenworth and Fort Riley military reservations to breed a sample of saddle horse, if for no other reason than to show the farmers of the surrounding country the kind of horse the government requires for cavalry and artillery.

Having gotten the road open and the animals well rested, we moved over the Ratton Pass and camped at a pond at the foot of the mountains. We were rear guard this day and had a tedious time; some wagons wrecked, and we came into camp late. The next morning we were in advance at sunrise. Approaching Red River, a big flock of turkeys were plainly to be seen on the trees; they had never been frightened and knew no fear. I asked permission of Lieutenant Hastings to ride ahead and kill one of them, which I did, shooting a big fellow from the tree with my pistol.

The first settlement that we struck in New Mexico was Maxwell's Ranch, on the Cimarron; the next was Riado, where I Troop was stationed. We here heard the first account of the battle fought six weeks before between I Troop and the Apaches, heretofore referred to. I met my old friend Byrnes, whom I had not seen since we parted at Fort Leavenworth the 1st of April, 1850. Now he was first sergeant

as heretofore related. Headquarters, band and "D" Troop stopped here, while "B" went on.

Arrived at Fort Union, we went into camp by ourselves about two miles from the post. And now the troop was under orders to proceed to Fort Stanton in a few weeks. Major Chilton found his commission as major and paymaster, was ordered to report at Washington, and was released from arrest. As my time would be out in less than two



"COUNCIL OAK."

Under this Oak at Council Grove, treaty was made with the Great and Little Osages for right of way of Santa Fe Trail, Aug. 10, 1825. Estimated age of tree, 250 years.

months I was promised a furlough before the troop would go. Colonel Cook would leave Fort Union for Fort Leavenworth in two weeks with a miscellaneous command, and this was my opportunity to go to the "States."

Pitching two wall tents facing each other and stretching a fly to cover the space between, I had a good orderly room and office, and with Corporal Ferguson for a clerk, assisted by Lieutenant Hastings, we proceeded to straighted up all company accounts, and bring everything up to date before my departure. Nothing in the way of clerical work was left

undone on Major Chilton's account as well as Hastings'. I had never had a company clerk and no assistance except what Lieutenant Hastings was always glad to render, and assistance from Ferguson or some other in comparing muster rolls. The records will show that when I left the clerical work was complete and there would be no unsettled matters between the troop commander and any of the departments, and there would be no dispute or confusion about any man's account.

I bought a mule, and Hastings gave me a saddle, bridle and blanket. I got permission to put my provisions, blankets, clothing, etc., into a government wagon in which I might sleep at night. Transportation was scarce and teams heavily loaded. A man on furlough had no status and no rights. The wagonmaster, Mr. Rice, very kindly invited me to mess with him, which I was very glad to do. The day of my departure came, my last roll call was made at reveille, and I passed from right to left of the troop and shook hands with every man. I was obliged to nerve myself to the utmost to meet this trial, one of the greatest of my life. My work was done, I had turned my back upon my best friends. I would never make better. I never saw any one else similarly affected. I had met and stood as severe shocks as any man of my age that I had ever known, and inwardly prided myself upon being equal to any emergency, but now I seemed bewildered. I went to my tent and pretty soon Hastings came in and said: "'Tis not too late to reënlist; perhaps you had best reconsider your determination to leave the troop." This seemed to bring me to my senses. I straightened up and replied: "Lieutenant Hastings, I appreciate all you say and all of the good will that you have ever shown for me, but I have matured my plans for the future. I am tearing myself away from the best friends I ever had and am doing it as a matter of duty to myself. There is nothing in the army for me from my standpoint. I am nearly twenty-six years old, and in another five years I would be thirty-one. I have learned all that I can hope to learn in the army that would assist me in civil life. Surely my services will be worth more out of the army than in it. At any rate I have

nerved myself for the trial, the bridges are burned, and there is no retreat." There was one man, Sergeant Worrel, in the hospital. Hastings mentioned the fact thinking I might have overlooked him. I said that I did not have to say "good bye" to him. I had no use for him; he was a thief, and would be guilty of any crime he dared commit, and I gave the Lieutenant satisfactory evidence that what I said was true, and told him that sooner or later he would find that I was right. I have heretofore stated the end of this foul murderer, and will now drop him.

There were two married men in the troop, Sergeants Peel and Espy. Mrs. Peel and Mrs. Espy gave me a farewell dinner, learning which Mrs. Hastings sent them some delicacies not to be had otherwise. Peel's only son, Percival Lowe Peel, was two years old. Having said "good bye" to Lieutenant and Mrs. Hastings and their lovely children, and to Mrs. Peel and Mrs. Espy and their boys, I started out for the first camp, ten miles. When half way I saw Colonel Fauntleroy, staff, band and "D" Troop en route from Riado to Union. The short cut that I was on and the road that they were traveling were a mile apart. I wanted to see Bryden, now of the band; in fact I would have been glad to salute the Colonel for the last time, and the adjutant, Lieutenant Magruder, and to say "good bye" to genial old Bandmaster Hooper, who had been my dancing master several winters. I got under a clump of pinyons, sat on the ground and saw them pass. To go down and shake Bryden's hand would never do; it would be a severe trial to say "good bye" to him, and I did not want to trust myself. And so I watched the column, the dear old fellow near the front, his trumpet over his shoulder, the cheering notes of which I would never hear again. It was my last look at all of them except Sergeant Candy of "D" Troop, now Colonel Candy of the Hampton Soldiers' Home.

Arrived in camp Major Chilton's servant came to say that the Major wanted to see me. When I reported he wanted to know how I was fixed for the trip. I told him I would be all right.

We came in the Cimarron route, leaving the old trail near

Diamond Springs, turned north to Fort Riley and thence to Fort Leavenworth. At Riley I left the command, and arrived at Fort Leavenworth two days later, and by invitation of Levi Wilson, who was general superintendent of teams, etc., I took my meals at his house, a room having been furnished me elsewhere.

Major Ogden told Mr. Wilson to employ me, and I was put in charge of a small train, five six mule teams for Fort Riley and met Colonel Cook's command ten miles out. I was warmly congratulated on being so well employed.

This was the beginning of five years' continuous service in the Quartermaster's Department, the most interesting part of which I will sketch hereafter. I have told the story of Fort Riley in the October number, 1902, and in my next will give my experiences in the ("so-called") "Kansas War" of 1856.

NOTE.—The plates for this paper were kindly loaned us by Mr. Geo. P. Morehouse, of Council Grove, Kansas.

[*To be Continued.*]



THE SQUAD SYSTEM.

By Captain William T. Littebrant, Twelfth U. S. Cavalry.

A TROOP'S discipline and instruction, therefore its efficiency, which is our aim, are promoted by the subdivision of the troop into squads, which thereby become important units under noncommissioned officers upon whom a constantly increasing reliance should be placed until the attainment of the ideal. This confidence in the noncommissioned officers and the requirement that they perform certain well defined functions, different from and in government of their fellows, the importance that they attain in the eyes of the privates, who recognize them as the medium governing the performance of so many of their duties, gradually inspire them with an increasing respect for their own position and a higher regard for their obligations. In a new organization this sentiment is more easily instilled into the minds of the recruits than it is into that of the old soldier. Some of those selected as noncommissioned officers will not stand the test and must be disposed of. In this new office they are entitled to instruction and encouragement under which many will develop surprisingly. Those who do not must revert to the grade of private. However, in a new troop where the noncommissioned officers are selected at little better than random, there is much material to draw from, and yet, for a troop commander deeply concerned with the welfare of his troop, this is a work of much labor, a trial of patience and a vexation that would willingly be avoided.

The regulations sanctioning this admirable system have not been thoroughly appreciated, and I have never seen the system properly applied. Some years ago, while at Fort Apache on a practice march, I observed the application of

the system in one of its details at stables by an officer stationed there, who informed me that in that respect it worked admirably. At other places I have observed its application in other respects, but never anywhere in its entirety.

Since coming to this post and with a new troop, I have found it the only way to accomplish any results at all, and the whole beautiful scheme has worked itself out, so that now noncommissioned officers in the troop never question their responsibility.

In the application of this scheme it frequently happened that the new noncommissioned officers did not properly respond. This was remedied at first by admonitions, while subsequent repetitions of the neglect or manifestations of indifference were followed by courts martial, which usually rectified the matter. In my troop, with two exceptions, the noncommissioned officers were recruits with the balance of the troop. I had to encourage and instruct them in the business of obeying and commanding, and repeat, and keep on repeating. This done, the subsequent administration and instruction of the troop have been vastly facilitated by the squad system.

THE SYSTEM.

To arrange the troop into squads: The members of the troop, except the noncommissioned officers, having fallen in line, they are arranged according to size, the tallest men in the center and the smallest on the flanks. The troop is then divided into four squads, numbered one, two, three and four, and noncommissioned officers assigned to squads in accordance with their size. Now these men always fall in in exactly the same place for all formations, such as reveille, roll call, stables, drills, mounted or dismounted, etc. Each noncommissioned officer knows all of the men of his squad, and can at any moment call his roll and account for the men of his squad. For mounted drills, the men having marched to the stables and saddled, fall in in squads, each squad (man, horse and equipment) being inspected by the squad chief in a squad formation before leading out to fall in at the command of the first sergeant; so do the men fall out of the

squad formation and fall in in troop formation in exactly the same arrangement in which they are in squads and in line dismounted. The advantages of this so far as the men are concerned are obvious—an advantage in battle heralded from the time of Cæsar.

THE BARRACKS.

In the barracks the men are squadded under their noncommissioned officers, the squads being likewise arranged in sequence, and the noncommissioned officers are held responsible for the cleanliness and order and instruction of the men. I found great difficulty in securing the first two qualifications, but now the squads are required to be marched by the squad chief into the barrack rooms immediately after the reveille drill, where each man is required to sweep beneath his bunk, make his bed, arrange his clothing and shoes, and then to be inspected by the squad chief before the squad is dismissed. Where any exceptions are taken to the condition of the man's effects at the daily inspection, the noncommissioned officer is first heard on the subject and then the man. With the former nothing more than admonitions have thus far been necessary. The noncommissioned officer sees that each man uses sheets and pillow cases as prescribed; that is, two sheets and one pillow case. The top sheet one week is used as the bottom sheet the succeeding week. The men are required to place one sheet and one pillow case in the wash weekly. These changes of linen are made so as to be clean for the Saturday inspection. In case of men failing to take the prescribed baths, as recorded in the bath book in the hands of the noncommissioned officer in charge of quarters, the squad chief is required to march them to the bath house for the necessary ablutions. When any man shows himself after ample instruction, ignorant of duty, his squad chief is required to have him instructed, either by instructing him himself or detailing some other noncommissioned officer in the squad to do so. In case of disorder or neglect, not only the squad chief but other noncommissioned officers in the squad are held responsible and given their share of reproof.

THE MESS HALL.

In the mess hall each squad sits at its own tables, under the observation of its own non commissioned officers, the ranking noncommissioned officers at the ends of the tables and each man in his assigned place, which he at all times occupies. Noncommissioned officers are held responsible for any disorders occurring there, and are required to explain their own and others' conduct in the premises. In view of the fact that soldiers, especially half-starved recruits, are voracious, the mess hall has been my special concern. The mess is in charge of a sergeant, who daily makes out a bill of fare and posting same in the kitchen, gives orders to the cooks and measures out the supply. This sergeant, except when on guard, is always on duty at meals, watching the men, their behavior and the service at meals. This is necessary since other noncommissioned officers frequently, intent on eating, fail to note infractions of the rules. The frequent reports of the mess sergeant have gradually resulted in an improved mess morale.

In view of the fact that men of limited intelligence do not hear but absorb orders and customs, rarely are verbal orders given concerning troop matters, but all are made of record. These orders are pasted together in convenient form and with the Articles of War are read at each meal by the noncommissioned officer in charge of quarters, or some one duly detailed, who obtains his meals before the troop eats. While orders are being read men are forbidden to engage in conversation except that necessary to obtain a supply of food. While of course this requirement is frequently violated, I presume some things are accomplished, viz: better deportment and the infrequent indulgence in boisterous or profane language, horse play, throwing articles of food, etc. Noticeable forbidden acts are reported to me and admonition or other punishment invariably follows. While I hold noncommissioned officers responsible for their squads, no noncommissioned officer present is relieved from responsibility for forbidden acts committed in his presence.

THE MARCH.

On the march by troop, the arrangement by squads is very much superior to any that I have yet seen, and the results accomplished are better. Immediately upon leaving post or camp, the march is by squads, by twos (over trails by trooper) under the squad noncommissioned officers. In case the country is dusty, the columns straddle the road and take such distance from those that precede as to prevent the squads in rear of the first always traveling in a cloud of dust. Any one who has ever ridden in the rear of a troop of cavalry can understand the advantage of this. This distance between squads varies from, say twenty yards to one hundred or one hundred fifty yards, and within general instructions this is left to the squad chief. To fully understand what is accomplished by this method of conducting a march it will be necessary to explain it a little in detail. For three-quarters of an hour after starting in the morning the troop travels at a walk; then follows a halt of fifteen minutes, during which time the men are authorized to fall out and attend to nature's calls. All of the men thoroughly understand this and count upon it. Likewise, here many horses urinate. Then after resuming the march, I proceed at the rate of fifteen minutes' walk and fifteen minutes' trot, and repeat for two hours and fifteen minutes, so as to bring the last pace before halting, at a walk. Then a halt of ten minutes, then a resumption and repetition of the previous two hours and fifteen minutes. Ordinarily during the first period of three-quarters of an hour, two and a half miles will be traversed. After that the regular gaits are pursued. This will then at the end of six hours land you at twenty-eight and one-half miles from the starting point. If the march be thirty-eight or forty miles, it is advisable to halt here for three-quarters of an hour or more. If only thirty-three or thirty-four miles, it is well to halt only fifteen or twenty minutes and resume. This method of conducting a march, both as to the rates of travel and periods between halts is so influenced by temperature, character of the road and water, that it is never lived up to, and no two marches

are conducted the same, but, by conforming to the general idea, the best results are, I believe, accomplished; camp will be reached sooner than otherwise and stock grazed, which both nourishes and rests. If the weather be hot and the roads be bad, hilly, rocky, or sandy, less trot will be indulged in and consequently less distance covered in a given time. In conducting the march thus in level country, all squads take the walk and trot at identically the same time and throughout the column, the last at the same time as the first trooper.

In halting, however, each squad closes up on the preceding squad and dismounts at the squad chief's command. This, thus and then, enables the troop commander to examine the horses. In resuming the march, the leading squad mounts and leads out, the next then when it has its distance and so on, each by command of his squad chief. If the country be irregular, short spaces alone admitting of the trot, the squads do not trot simultaneously, but when they arrive at the point where the trot was taken up by the preceding squad; so likewise when dismounting and walking are concerned. Thus, it is observed that everything is according to the circumstances of the case. In view of the fact, too, that in hot countries, horses' backs are often made sore by repeated and prolonged pressure on the near stirrup due to the commands, "Prepare to mount and dismount," I always omit them, and frequently require men on alternate days to mount and dismount on different sides of the horse.

On the march the squad chiefs are required to frequently ride in rear of their squads, and in case there are two noncommissioned officers with the squad, one must always be in rear, this to observe and prevent men slouching in the saddle. Formerly, I made my walking and trotting periods longer, but I observed that in say one-half hour men at a walk will become loggy and dull and have a tendency to slouch in the saddle. This evil is corrected by the shorter periods, the frequent trots causing the blood to flow through the veins more lively, bringing the flush to the cheek and making everyone feel better. One of my rules is never to

allow a man to change his seat after he once gets into the saddle. To be sure, I cannot prevent some men from at times causing sore backs, which may be due to a thousand causes, but one fertile source of them is removed.

Men very soon learn that if they are caught slouching they must walk, and few relish a ten, fifteen or twenty mile walk. This punishment by walking, by the way, is a most efficacious one and effectually reaches all offenses committed either on the road or in camp. This system thus places each squad (men and horses) immediately under the squad chief, increases his responsibility and importance, and causes the men to look directly to the squad chief as the medium through whom all things are accomplished.

THE CAMP.

While in the field the duties of the squad are plain. Thus upon arrival in camp the first squad takes charge of the officers' tentage, and likewise the following morning it strikes the tentage and binds same for packs or wagons. The second squad hunts wood and likewise cut the wood for the kitchen; the third hunts water and keeps the kitchen supplied with water; the fourth constitutes the guard, taking the led horses. These duties change daily upon pulling out of camp by rotation. The first succeeding to the duties performed by the fourth, the second to those of the first, the third to those of the second and the fourth to those of the third. Likewise do they change their position in the column of march, the guard and the led horses always marching in rear. The squad is thus always kept intact and always under its own noncommissioned officers. In case of great scarcity of wood and water, all squads except the guard seek same upon the completion of their special duties. The guard of course perform herd guard and with the aid of the force ordinarily at the stables, lay the picket rope. In the morning before the horses are taken from the picket line, the noncommissioned officer succeeding to the guard accompanied by the noncommissioned officer of the old guard verifies the horses, and reports, accompanied by him, to the

troop commander for orders. He then has his squad take charge of the led horses. The extra nose bags are turned in to the quartermaster sergeant by the noncommissioned officer of the old guard. The led horses are fed by the guard squad.

Where the camp ground is not well adapted for a properly laid out camp and everything is secure, squad chiefs may be directed to select some convenient location and pitch their squad camps. This is a good innovation, as it promotes a squad esprit.

SECURITY ON THE MARCH.

The method of conducting a march by squads has its advantages for a country such as the Philippines are said to be, where the density of the vegetation prevents the employment of flank guards. Thus, in case of a frontal attack on the leading squad, the second or third squads in column taking advantage of their distance from the front, will be guided accordingly, both or one endeavoring if possible to make a detour to one or both flanks to attack the foe in flank, or one joining the leading squad to aid and support it while the other makes the detour, the guard performing its natural duty in rear, sending such men as it can spare to the front. Noncommissioned officers are instructed that ordinarily the employment of only one flanking detachment is the safest procedure. In case the enemy permits the leading squad to pass and attack an interior squad on the flank, the position of the leading and rear squads, should the country be penetrable, enables them to approach and take the foe in flank, and noncommissioned officers properly instructed will always have in mind such contingencies. In case the country is wooded, but sufficiently open to permit its easy penetration, I believe the employment of skirmishers with forty, fifty or seventy-five yards intervals much superior to the ordinary method laid down for the performance of advance guard duty, because in such a country where it is impossible for the detached parties to see over the tops of the vegetation, noncommissioned officers in charge of them cannot keep in touch with the advance guard or main body. I

have taken my troop into the mesquite south of the post and lost one or two detachments every day for a week. This, notwithstanding their being allowed the greatest latitude in their movements, and this upon ground with which every man is familiar. One noncommissioned officer, a fine horseman and experienced soldier, was lost on identically the same ground on two successive days; hence, I now deploy the leading squad to the right of the road with above stated intervals. Each man to the right and rear (from ten to fifteen yards in rear) of the man with whom he must keep touch, by voice, sight or sound. The base: I make a corporal and place one man ahead of him on the road about fifty yards. The men are numbered to the right and left of him, two, three, four, etc.; the corporal himself is numbered one. Frequently the corporal calls "Number One," and then each man to the right, in succession, calls his own number in a moderate tone, so that his neighbor may hear and keep in touch with him. The second squad is deployed similarly to the left, the men calling off as described for the right flankers and at the same time. Thus a squad of eight men will cover a stretch of country varying from 300 to 500 yards which is ample for a troop in such a country.

In case there are more than eight men in a squad, the squad chief should keep the balance with himself deployed in rear of the center of the squad, or else in column on the road about three hundred or four hundred yards in rear of deployed skirmishers in advance; however, the sergeant or other noncommissioned officer in command of the extended line must frequently ride the line to see that touch has not been lost. In case of attack in front or in front of one flank of skirmish line or to one flank of skirmish line, the same principles obtain as in preceding cases, each squad chief being instructed to assemble his men on the skirmishers most convenient to the point of attack, and then conducts them to the best possible advantage. Of course, circumstances alter cases, and officers are expected to always be on the ground to properly guide the attack, but the principles are as above stated. In case of an attack in rear, the led horses are speedily conducted to the front and the other squads guided

as before, the squad chiefs being instructed to always conduct their men towards the fire, bearing in mind the advantages of an attack on the flank.

While the arrangement of squads is designed solely for a single troop on the road, it might, in exceptional circumstances, be used with variations by a cavalry command advancing across country where the obstacles were of no moment and the footing firm; thus, have the squads march abreast of each other in column of twos, with suitable intervals, guard squad in the center, one lieutenant to follow the troop, the guidon upon which the troop should regulate to accompany the captain in advance.

STABLES.

The horses are squadded and belong to the same squads as their riders. They are so arranged in stalls and are always so tied on the picket line. This acquaints each horse with his neighbor, and noticeably reduces the tendency that horses have to kick and bite strangers. The horses are groomed by squads, and although the whole troop is marched to the stables by the first sergeant, each squad grooms under the immediate supervision of its squad chief, and no man changes horses until the squad chief has inspected and passed upon his work. Since the scheme has been inaugurated I have not observed a single man fail to hustle. It is like task work, which anyone who has worked bodies of men knows accomplishes more and better work than any other system. When the horses of the squad are groomed to the satisfaction of the squad chief, he reports it to the first sergeant, who reports it to the officer present, and if the inspection justifies it the horses are led in. This done, the squad chief marches the squad to the saddle room (where likewise all of the saddles are arranged in squads, and for the arrangement and condition of which the squad chief is responsible) and if the saddles and equipments are not properly adjusted or are dirty, he requires the men to adjust and dust them off. This done, he marches his squad to the barracks and dismisses it. Likewise after all drills, each man is required to dust off and

arrange his equipments, and this under the supervision of the squad chief, who may be summoned at any time of the day and have his attention invited to neglects of his men. However, I have rarely had occasion to take such steps in the matter, since the order requiring the equipments to be adjusted, etc., after stables has impressed upon the men the fact that there is but one way for equipments to be kept. In saddle rooms of the class such as we have here, some things cannot be kept as perfect as other and better conditions would admit of. Each squad is required to keep the earthen floors of their own stalls in good condition, and keep the woodwork lime-washed. In assigning horses originally, the large horses were placed in the center squads and the small horses in the flank squads, so that each man would have a horse according to his stature, and this arrangement has, notwithstanding the vicissitudes of the service, been maintained.

In conclusion, I might say that the addition of recruits does not cause any derangement of the system, his size determining his squad. In case the squads thereby become unequal, the largest men of the small squads are transferred to the large squads, or the smallest men of the large squads to the small ones.

Thus it is seen that there are very few matters arising in troop administration that are not facilitated by the squad system, not the least merit of which is the relief afforded the first sergeant and the troop quartermaster sergeant.

HISTORY OF THE FIFTH CAVALRY IN THE SPANISH-AMERICAN AND PHILIPPINE WARS, MAY 1, 1898, TO OCTOBER 10, 1903.

By Captain N. F. McCLURE, Fifth Cavalry.

THE story of the Fifth Cavalry in the Spanish-American War and in the Philippine disturbances, though not filled with dashing charges and hair-breadth escapes, is still one worth recording. The regiment was ever ready for the front, and it was not the fault of the rank and file, but their misfortune, that they played a part of no more importance in these events.

When war with Spain was declared, the Fifth Cavalry was stationed at various post in Texas. About May 15th it was concentrated, except Troops D and F, at New Orleans. On May 25th the regiment moved by water to Mobile, where the two absent troops joined it, and all these changed stations on June 5th to Tampa. It was supposed at this time that the stay there would be but a few days at most, and a camp was selected convenient to the railroad and without special regard to sanitary conditions. This camp was moved about July 20th to what was supposed to be a better site, and this being flooded by August 5th, necessitated a second change to Tampa Heights. But the seeds of typhoid fever had already been sown, and that awful epidemic now began, which resulted in the record of the Fifth Cavalry for sickness being one of the worst of any regiment, regular or volunteer, in the service.

Several times during this period there were orders to board transports for Cuba or Porto Rico, but, for one reason or another, nothing came of this, except that Troop A, through the individual efforts of its commander, Captain A. C. Macomb, managed to secure passage on the same transport with a light battery, and sailed for Porto Rico July 25th.

After some delay off Fajardo, the troop with its horses landed about August 5th at Ponce, and was attached at once to the left column of the Porto Rican expedition. It behaved with great gallantry in this movement, and was especially conspicuous for good work in the affairs of Hormigueros and Rio Prieto near Mayaguez. But the protocol of August 13th soon cut short its career, and its services from that time until the arrival of the rest of the regiment were confined to preserving law and order and guarding the interests of sugar planters in the vicinity of Tas Marias and Tares.



OFFICERS' QUARTERS DESTROYED BY THE HURRICANE OF AUGUST, 1899, AT HUMACAO, P. R.

The headquarters and the remaining eleven troops left Tampa August 15th, and went into camp at Huntsville August 18th.

Many cases of typhoid contracted in Tampa developed here, and the wisdom of the change was not at first apparent. But the bracing breezes of the uplands eventually did their work, and by November 1st seventy-five or eighty per cent. of the rank and file were in good physical shape.

On November 4th, headquarters and Troops B, D, E, G, K and L started for Savannah and embarked there November 9th, arriving at Ponce, P. R., on the 14th inst. These troops were scattered over the central and western parts of the island, headquarters, band and one troop locating at Mayaguez.

Troops C, F, H, I and M remained in camp at Huntsville, where the suffering from the inclement weather was considerable, until January 21, 1899, and then took train for Savannah, sailing from that port February 1st for Porto Rico. They disembarked at San Juan February 6th to 10th, and took station as follows: "C" at Hunacao; "F" at Bayamon; "H" at Arecibo; "I" at Ponce and "M" at Cayey.

From the time of leaving Huntsville, November 4th, until the following October, Colonel C. C. C. Carr commanded the regiment. Colonel W. A. Rafferty then joined at Mayaguez and held the command till his death September 13, 1902.

Troops A, B, C, and D sailed for the United States from San Juan, March 24, 1900, landed at Newport News, Virginia, and reached Jefferson Barracks April 2d.

The third squadron, Troops I, K, L and M, with the band and headquarters, sailed from San Juan, August 7, 1900, landed at New York and took station at Fort Myer, Virginia.

The second squadron, Troops "E," "F," "G" and "H" left San Juan December 15, 1900. Troops "E" and "G" took station at Fort Ethan Allen and Troops "F" and "H" at Jefferson Barracks, Missouri.

REMARKS ON THE SERVICE IN PORTO RICO.

The service of the Fifth Cavalry in Porto Rico was trying, though not specially hazardous. It was well performed. The changes from martial law to military government and from the latter to civil government brought with them much hard work for officers and men. Troops were generally divided up into small detachments, relieving want and destitution, guarding haciendas, patrolling, holding elections, building roads, etc. The rights of the people were upheld and respected universally, and there are few in-

stances recorded of lawlessness or disorder among the men of the regiment.

When the terrible hurricane of August 8, 1899, swept the island it left devastation in its track. From San Juan to Fajaids on the northeast coast the storm was less severe, but in the other portions of the island the foliage was whipped from the trees and many of them uprooted; the cocoanut groves were more than half destroyed; the fruit disappeared; and the towns were leveled to the ground. An unprecedented deluge of rain accompanied the storm and flooded the



BARRACKS OF A TROOP FIFTH CAVALRY DESTROYED BY HURRICANE OF AUGUST 8, 1899, SAN JUAN, PORTO RICO.

lowlands. Two thousand six hundred people lost their lives, of whom five hundred were drowned in Ponce and five hundred in Arecibo.

The sickness and starvation following in the wake of the storm was little less severe than the hurricane itself. Several men in the Fifth Cavalry also perished. Two of these were at Humacao, one being drowned and the other being crushed in the ruins of the large brick barracks which blew down. In many cases the men lost all their clothing and personal effects, for which they were never reimbursed.

To meet the want and destitution caused by the storm, the issue of rations from the surplus in the Subsistence Depot at San Juan was begun, and this was followed by great quantities of food-stuffs, clothing and medicine donated and sent by the people of the United States. To distribute these, the troops of the Fifth Cavalry and a part of the Eleventh Infantry were divided into small detachments and scattered through the devastated towns. Then began months of hard work getting these supplies to the people. Transportation was limited, the rough weather often rendered it difficult to get stores landed along the seacoast, while the rushing waters of the storm had so completely destroyed the roads in many localities that it was well nigh impossible to get supplies to the interior. In many cases it was necessary to use pack horses and pack mules.

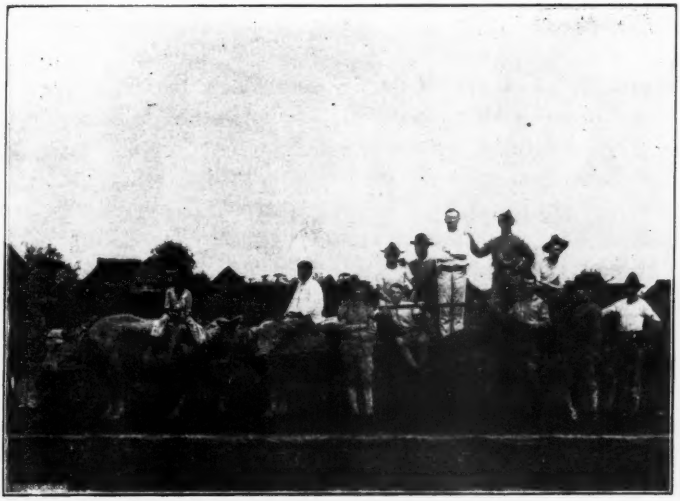
Officers and men worked hard and carried relief to many a disheartened and discouraged community. Captain H. W. Wheeler and Captain H. S. Bishop, Fifth Cavalry, were particularly active in this work. The former often accompanied his pack teams over miserable mountain trails to interior towns and hamlets. In some districts the relief was kept up for many months, and I do not hesitate to say that the government, by its prompt action in sending supplies, and the troops by their faithfulness in distributing them, saved thousands of lives. It was long before the fair island was itself again.

The average stay of the troops of the regiment in the United States after the return from Porto Rico was one year, though some troops remained less than that and some longer. On March 18, 1901, headquarters, band and Troops A, B, C, D, I, K, Z, and M sailed for the Philippine Islands, arriving in Manila April 17th. Headquarters, band and the third squadron were stationed in Rizal Province, while the first squadron went to Guagua and Angeles.

On July 1, 1902, Troops E, F, G and H sailed for the Philippines, arriving in Manila July 29th. Two troops took station at Pasay Barracks, one at Angeles and one at San Isidro.

The following is a brief epitome of the service in the

Philippine Islands: Headquarters and band at El Depinto, San Felipe, Neri and Camp Stotsenburg. Troop A at Angeles and Camp Stotsenburg; Troops B and D at San Fernando and Camp Stotsenburg. Troop C at Tarlac for three months and then at Bayamburg, Province of Pangasiman, when in October, 1901, three typhoons were experienced, the last of which destroyed the stables at Bayamburg and nearly all the buildings of the detachment in Bantista, thus entailing much suffering and loss of property. In June, 1902, Troop C went to San Isidro, where it remained



NATIVE TRANSPORTATION AT ANGELES, P. I.

until time to return to the United States. Troop F served also at San Isidro and Troop E at Angeles and Camp Stotsenburg. Troops G and H were first stationed at Pasay Barracks and afterwards were engaged in the important work of guarding the Manila water supply, of which more will be said later. Troops I, K and L also took part in the same duty. I Troop was first at Montalbon, but here the stables and barracks were destroyed by a typhoon in October, 1901, and the troop moved to San Mateo, where for a year and a half it performed the irksome and arduous duty

of assisting in the guarding of the Manila water supply. Troop K was first at Pasig, but in November, 1902, it moved to Camp Stotsenburg and was the first garrison at that point.

Troop L was at San Felipe Neri but moved to Camp Stotsenburg in December, 1902. Troop M spent its entire service in the lonely post of Tanay, amid ladrones and insurrectos. The troop was often called out to chase these enemies of the government, or by its presence to overcome them.

The important work of guarding the Manila water supply deserves more than a passing mention. The Fifth Cavalry was engaged in this for some eighteen months, Troops G, H, I, K and L participating. During that time they were materially assisted for five months by a battalion of the Twenty-eighth Infantry and later for about the same period by a battalion of the Second Infantry,

When the Asiatic cholera first appeared in Manila, March 21, 1902, Colonel Rafferty, Fifth Cavalry, at once realized how important it was to prevent the water supply of the city from becoming infected. He was placed in command of all troops in the Mariguina Valley, with full power to take such steps as he found necessary. He first made a careful inspection of the basin of the water supply and this developed the fact that more troops would be needed. He applied for them and about April 25th a battalion of the Twenty-eighth Infantry arrived. A rigid river guard and quarantine service was at once instituted. So effective has this been that, at this time, two years after it was first established, the water supply of Manila has never been infected by cholera germs. When we consider the filthy habits of the people, the dense population of the Valley and the extremely small rainfall of the seasons of 1902 and 1903, this result speaks volumes for the efficiency and devotion to duty of the troops engaged in this work.

After Colonel Rafferty's death, on September 13, 1902, from injuries received in a fall on the 6th of the same month, the command of the troops in the Valley devolved upon Lieutenant Colonel C. A. P. Hatfield, Fifth Cavalry.

He also took command of the regiment at the same time and held it until his promotion May 1, 1903.

In February and March, 1902, and again in May and June, 1902, Troops I, K, L and M were engaged in some very arduous service in pursuit of insurrectos or ladrones in Rizal Province. Many stirring incidents occurred too numerous to record here, but one deserves more than a passing mention.

On Decoration Day, May 30, 1902, seven enlisted men of Troop M, Fifth Cavalry, left Tanay for the purpose of going to Binangonan to decorate the grave of a comrade who had died there of cholera a short time previous. On the way they met a large band of insurrectos and five soldiers were captured, the other two escaping. One of these escaping, soon reached Tanay and gave the alarm. The troops from Tanay, Pasig and San Mateo at once took the field and for three weeks scoured the country trying to catch the miscreants. On June 3d the corpses of the five soldiers were found, badly mutilated, and taken to Tanay for burial. A number of the assassins were afterwards captured, and one got as much as three years in Bilibid. It being time of peace, they had to be tried by civil courts. No wonder the natives often regarded us as being "easy."

About January 1, 1903, half the regiment was concentrated at Camp Stotsenburg, and began the labor of building that post, Colonel Hatfield in command. The long months of hard work brought on much sickness, and for a while the surgeons attributed this to the site and tried to have the place abandoned. But common sense eventually triumphed, and the finest site in the Philippine Islands for a military post was retained by the government. Excellent regimental instruction was also carried on at Stotsenburg, so that the tour of duty of the Fifth Cavalry there was of great value to both officers and men.

On June 6, 1903, headquarters, band, and Troops I, K, L and M, boarded the United States Army transport *Thomas* to sail for the United States, and the remainder of the regiment boarded the *Sheridan* for the same purpose on September 15th, arriving in San Francisco October 10, 1903.

The members of the Fifth Cavalry may well be proud of its service in both Porto Rico and the Philippine Islands. No other regiment can show a greater devotion to duty or a more honorable record.

STATIONS OF THE FIFTH CAVALRY NOVEMBER 10, 1898 TO OCTOBER 1, 1903.

Band.—Nov. 14, 1898 to Aug. 3, 1900, Mayaguez, P. R.; Aug. 13, 1900 to March 10, 1901, Fort Myer, Va.; April 19, 1901 to Dec. 22, 1902, San Felipe Neri, P. I.; Dec. 26, 1902 to June 6, 1903, Camp Stotsenburg.

Troop A.—Sept. 1, 1898 to Feb. 1, 1899, Las Marias, P. R.; Feb. 1, 1899 to March 18, 1900, Arecibo, P. R.; April 2, 1900 to July 18, 1900, Jefferson Barracks, Mo.; July 22, 1900 to March 9, 1901, Fort Huachuca, A. T.; April 20, 1901 to May 15, 1901, Guagua, P. I.; May 15, 1901 to Jan. 22, 1903, Angeles, P. I.; Jan. 22, 1903 to Sept. 13, 1903, Camp Stotsenburg.

Troop B.—July 7, 1899 to March 15, 1900, Adjuntas, P. R.; Nov. 19, 1898 to Dec. 26, 1898, San Juan, P. R.; Dec. 27, 1898 to July 7, 1899, Utuado, P. R.; April 2, 1900 to July 18, 1900, Jefferson Barracks, Mo.; July 23, 1900 to March 7, 1901, Fort Grant, A. T.; April 20, 1901 to May 28, 1901, Guagua, P. I.; May 28, 1901 to Dec. 4, 1902, San Fernando, P. I.; Dec. 30, 1902 to Sept. 13, 1903, Camp Stotsenburg.

Troop C.—Feb. 13, 1899 to Feb. 12, 1900, Humacao, P. R.; Feb. 14, 1900 to March 24, 1900, San Juan, P. R.; April 2, 1900 to July 18, 1900, Jefferson Barracks, Mo.; July 21, 1900 to March 4, 1901, Fort Wingate, N. M.; April 19, 1901 to May 2, 1901, Angeles, P. I.; May 3, 1901 to July 20, 1901, Tarlac, P. I.; July 20, 1901 to June 12, 1902, Bayambang, P. I.; July 17, 1902 to Sept. 6, 1903, San Isidro, P. I.; Sept. 6 to 13, 1903, Camp Stotsenburg.

Troop D.—Nov. 14, 1898 to March 22, 1900, Mayaguez, P. R.; July and Dec., 1899, San German, P. R.*; April 2, 1900 to July 18, 1900, Jefferson Barracks, Mo.; July 23, 1900 to March 9, 1901, Fort Grant, A. T.; April 19, 1901 to May 25, 1901, Angeles, P. I.; July 24, 1901 to Dec. 14, 1902, San

Fernando, P. I.; Dec. 21, 1902 to Sept. 13, 1903, Camp Stotsenburg; May 26, 1901 to July 23, 1901, Penaranda.

Troop E.—July 1, 1899 to Nov. 28, 1900, Mayaguez, P. R.; Nov. 20, 1898 to July 1, 1899, also Nov. 1899, March and May, 1900, San German, P. R.*; March 7, 1901 to August 7, 1901, Fort Grant, A. T.; Dec. 6, 1900 to Feb. 26, 1901, Fort Ethan Allen, Vt.; Aug. 15, 1901 to June 21, 1902, Fort Apache, A. T.; Aug. 1, 1902 to Jan. 12, 1904, Angeles, P. I.; Jan. 12, 1903 to Sept. 13, 1903, Camp Stotsenburg.

Troop F.—Feb. 9, 1900 to Aug. 27, 1900, Humacao, P. R.; Feb. 8, 1899 to July 31, 1899, Bayamon, P. R.; July 31, 1899 to Feb. 9, 1900, also Aug. 28 to Dec. 15, 1900, San Juan, P. R.; Dec. 23, 1900 to Feb. 27, 1901, Jefferson Barracks, Mo.; March 3, 1901 to June 8, 1902, Fort Huachuca, A. T.; Aug. 1, 1902 to Sept. 5, 1903, San Isidro, P. I.; Sept. 6 to 13, 1903, Camp Stotsenburg.

Troop G.—Nov. 22, 1898 to Nov. 25, 1900, Albonito, P. R.; March 7, 1901 to March 23, 1902, Fort Grant, A. T.; Dec. 6, 1900 to Feb. 26, 1901, Fort Ethan Allen, Vt.; March 28, 1901 to June 21, 1902, Fort Apache, A. T.; April 12, 1902 to Sept. 7, 1903, San Mateo, P. I.; July 29, 1902 to Feb. 11, 1903, Pasay Barracks, P. I.

Troop H.—June 15, 1899 to Nov. 28, 1900, Mayaguez, P. R.; Sept., 1899 and Feb., 1900, San German, P. R.;* Feb. 12, 1899 to June 12, 1899, Arecibo, P. R.; Dec. 23, 1900 to Feb. 27, 1901, Jefferson Barracks, Mo; March 1, 1901 to March 23, 1901, Fort Wingate, N. M.; March 30, 1901 to May 30, 1902, Fort Duchesne; Feb. 11, 1903 to Sept. 7, 1903, San Mateo, P. I.; July 29, 1902 to Feb. 11, 1903, Pasay Barracks, P. I.

Troop I.—Feb. 15, 1899 to Aug. 1, 1900, Ponce, P. R.; Aug. 13, 1900 to March 10, 1901, Fort Myer, Va.; April 22, 1901 to Oct. 31, 1901, Montalbon, P. I.; Oct. 31, 1901 to June 1, 1903, San Mateo, P. I.

Troop K.—Mar. 21, 1900 to Aug. 4, 1900, Mayaguez, P. R.; June 10 to July 10, 1900, San German, P. R.;* Nov. 22, 1898 to Feb. 17, 1899, Ciales, P. R.; Feb. 17, 1899 to March 17, 1900, Manati, P. R.; Aug. 13, 1900 to March 10, 1901, Fort

Myer, Va.; April 19, 1901 to Oct. 29, 1902, Pasig, P. I.; Nov. 1, 1902 to June 6, 1903, Camp Stotsenburg.

Troop L.—May 24, 1899 to Aug. 3, 1900, Mayaguez, P. R.; Nov. 24, 1898 to May 24, 1899, Las Marias, P. R.; Aug., 1899 and January and April, 1900, San German, P. R.;* Aug. 13, 1900 to March 10, 1901, Fort Myer, Va.; April 19, 1901 to April 24, 1901, Caloocan, P. I.; April 24, 1901 to Dec. 22, 1902, San Felipe Neri, P. I.; Jan. 3, 1903 to June 6, 1903, Camp Stotsenburg.

Troop M.—Feb. 13, 1899 to Feb. 13, 1900, Cayey, P. R.; Feb. 16, 1900 to July 27, 1900, Manati, P. R.; Aug. 13, 1900 to March 10, 1901, Fort Myer, Va.; April 19, 1901 to June 1, 1903, Tanay, P. I.

* July, 1899 to July 1900, monthly detachment.

ROMANCES OF TWO WARS.

By Major J. A. WATROUS, United States Army.

"HOW does it happen?" asked the veteran General, "that some of the sweetest, prettiest stories born of war experiences are never told?" Everybody at headquarters gave it up, but the Chief Quartermaster believed that the old General had a good story up his sleeve and proceeded to probe for it. After fresh cigars had been lighted, the Quartermaster intimated that probably the reason why some of the sweetest and prettiest stories of war times had failed to materialize was because those who were familiar with the facts had bottled them up, had selfishly retained them, thus cheating the public. Then glancing at the staff and visiting officers, remarked, "It is my impression that the General has such a story laid by. It is our duty to the reading public to insist that he relate it."

Everyone in the room except the General sided with the Chief Quartermaster. The story was loudly called for. After two or three puffs and a prolonged look at the ceiling, the old General said: "I am guilty, gentlemen; I do know such a story. If I can get the promise of my distinguished staff that it will behave itself in the future, do its work without annoying me, I will relate it."

"Gentlemen," said the Chief Paymaster, "Isn't the story going to be rather too rich for our blood? Doesn't it come too high? At that price it ought to be a mighty good story."

"It is a mighty good story, and I am going to tell it. Lock the door. Let no guilty man escape."

"It is a long jump from the Pasig River, in the Philippines, to the Rappahannock River near Fredericksburg, Virginia, but it must be made.

"I was a newly made sergeant when Burnside crossed the Rappahannock River and threw his legions against Lee,

Jackson and Longstreet and their magnificent tribes of fighters in December, 1862. If you have read history you know that we remained on that side of the river until the night of the 16th. How well I remember that it was as dark as any night Egypt ever had. Whispered orders came to us to fall in and march with the least possible noise. Just at daybreak the last of the Army of the Potomac crossed the river, escaped, providentially, I have always thought, and during the day went into camp in the forests back of Stafford Hills. I had been given a peck on the shoulder from a minie ball, though it had not sent me to the hospital. The next day after we went into camp the captain excused me from duty, as he did a corporal, a special friend of mine, who had received a slight flesh wound in the arm.

"Having nothing to do, we two noncommissioned officers took a walk. Half a mile from camp we came to a small clearing in the center of which stood a little dwelling. We were both hungry and decided to enter and ask the inmates to prepare a substantial meal. In this humble Virginia home was a most hospitable family consisting of an aged father and mother and two daughters, young ladies, Lottie and Martha. Certainly they would prepare a dinner for us, the best they could, though the best would not be very enticing, they feared.

"While the young ladies were preparing the repast, the father and mother talked with us about the recent battle. They spoke of a son who belonged to Perham's battery.

"'We remember that battery,' I said, 'for it had a position on our left and gave us a raking fire the better part of two days, doing much execution.'

"All four of our newly found friends were out and out Confederates, but, like all Virginians, hospitable. We talked on all of the subjects with which we were familiar, spending three or four hours with the interesting couple and their daughters. Both daughters were very good looking. Lottie had dark hair, brown eyes, beautiful complexion, a fine form, and had attended the best school in Fredericksburg several terms, and was well informed.

"My associate, the Corporal, insisted on our returning a few days later for another visit and another dinner. We did, and we returned again and again. I could see plainly enough that the Corporal and Lottie were falling in love in spite of the fact that she was a sharp-tongued little rebel and he as patriotic and country-loving a young Yankee as I ever met.

"While returning from one of our visits a few weeks later, the corporal imparted to me that he had proposed to Lottie. She had been frank to say that she loved him dearly, but believed that it was not best for them to become engaged at such a time. 'You are my enemy; you are fighting my country; you are fighting my brother, my only brother,' said the little black-haired Confederate. 'If, at the end of the war, we still feel as we do towards each other, I promise, gladly promise, to become your wife.'

"'Nothing,' said the Corporal, 'could induce her to change her mind.'

"Three years from that time (you will remember it was not far from Christmas), I met the Corporal in Chicago. Both of us had become officers in the regular army (lieutenants). I was spending my leave in that city and he was passing through to spend his leave in and about Fredericksburg, Virginia. By correspondence they had settled the question which he could not settle three years before.

"'Congratulate me, Lieutenant, congratulate me. I am going down to marry Lottie, our sweet little Virginia friend. She is coming back with me.'

"He kept his word. The next year I married. The Lieutenant, whom I will call Jim, and his Virginia wife, were always represented as about as happy a couple as ever met. Of course, I was always interested in her, though we did not meet for twenty years after we said good-bye, in June, 1863, when our command left the vicinity of Fredericksburg and took up its line of march to Gettysburg. Gentlemen, what history our little army has helped to make since that parting in June, forty years ago!

"Just before the battle of Chancellorsville, in May, 1863, our command had a fierce battle at Fitzhugh Crossing. We

charged across the Rappahannock in boats, pushed up the high bank and took the enemy's line of works and made most of his force prisoners. That night Jim and I were on picket. The lines were very close together. The Confederates made a dash at us in overwhelming numbers, capturing a good share of the line, including Jim. I managed to get word back to Lottie that her lover was a prisoner. The next day the little lady came to our lines and was conducted to the grizzly old colonel commanding the brigade, to whom she made known her plan to bring Jim back into the Union lines. 'I have a brother not far from where the Corporal was captured. If you will permit me to send this letter through your lines I am confident that he will see that the Corporal comes back to-night.'

"The General took the letter, read it, handed it back and told Lottie her request would be complied with.

"That night a letter was placed in charge of the officer commanding the picket with instructions to send the secret service man, who gave it to him, through the lines in search of Sergeant John Lott, of Perham's battery.

"I do not pretend to know just how they managed, but I do know that Corporal Jim was in camp for breakfast the next morning. That evening he was given permission to spend an hour at the home of his Virginia friends. He told me the next morning that Lottie spent most of the hour in chiding herself for recruiting the Yankee army by stealing a prisoner from the Confederates.

"Jim's first boy was named for me and my first boy was named for Jim. When the trouble in the Philippines came, Jim and myself were ordered out. As you know, I have a son in the regular army, a lieutenant. So has Jim, and their regiments came to the Philippines soon after their fathers came. Jim's family made all arrangements to follow him as soon as it would be safe for them to do so. They settled in a pleasant home in San Francisco and watched for the opportunity to come. They were there when my son's regiment reached the Presidio. A week later Jim's regiment arrived. Both had been at West Point together, and of course it was not long before they met and it was the

most natural thing in the world for Jim to invite my son to become a guest of his mother and sisters as often as he could be spared from his duties. It was also natural for him to accept. Oh, yes, of course, that boy of mine fell in love with one of Jim's daughters; her name was Lottie, too, and she has black hair and brown eyes and is altogether a very lovely girl. She is my daughter in-law now."

At this point the old General fixed his eyes on the ceiling.

"Is that all the story, General?" asked the Chief Commissary.

"No, it is not all. While my boy was courting Jim's boy's sister, Jim's boy was writing letters to my flaxen-haired girl back in Illinois. Jim's boy became my son-in-law last year."

"You haven't told us who Jim is, General."

"That's so. You just watch the next list of brigadiers the President sends out and you will find Jim's name in it."

It was there.

So ended the old General's romances of two wars.

THE GENERAL SERVICE AND STAFF COLLEGE.

ADMINISTRATION.

ALL army officers of more than eight years' service are familiar with the history of the old Infantry and Cavalry School, which was instituted in 1881 and continued until the breaking out of the Spanish-American War in the spring of 1898, and all officers who have joined since the latter date are sufficiently familiar with its history and workings to make it unnecessary to go into the details of its past seventeen years' work.

When the unsettled conditions resulting from the Spanish-American War and the Philippine Insurrection began to disappear in 1901, Mr. Root, ably supported by those officers who were familiar with the work and results of the Infantry and Cavalry School and who were anxious to see it started again, set about the reorganization of our army educational system, the result being the Post School, the General Service and Staff College, and the War College. The functions of the War College were somewhat hazy and indefinite, but the General Service and Staff College supplanted the old Infantry and Cavalry School, and was intended, when G. O. 155 of 1901 was originally issued, to eventually be a school for the education of all branches of the service—a "General Service" School *de facto*—the course to be two years.

After one year of experimental work and the graduation of the class of 1903, those most interested in the school's welfare began to devise schemes for extending the preliminary one year's course to the originally intended two years.

The engineers already had their School of Application at Washington; likewise the medical corps; and the artillery had two schools, a preliminary one at Fortress Monroe and

its post-graduate one at Fort Totten. This made the "General Service and Staff College" a misnomer, for it was really only an "infantry and cavalry school" as of old. This led to a second reorganization of the whole army educational system by the General Staff, the result of which is G. O. 115, War Department, of 1904.

There are now at Fort Leavenworth (or will be as soon as the Signal School is inaugurated) three army schools: The Infantry and Cavalry School, at which officers of those two branches of the service study the duties of those two arms in war. The course is one year.

The Signal School, where junior officers of the Signal Corps and lieutenants of the line study practical and theoretical signal work for one year.

The Staff College, where a limited number of selected graduates from the Infantry and Cavalry School and from the Artillery and Engineer Corps study the duties of General Staff officers in time of war, and to investigate such military inventions, discoveries and developments as effect the efficiency of their arms of the service in war. The course is one year.

The commandant of the Staff College "shall be an officer not below the rank of colonel, especially selected for the duty, and detailed in orders from the War Department." He is also commandant of both the Infantry and Cavalry School and the Signal School.

The assistant commandant of the Staff College is likewise assistant commandant of the Infantry and Cavalry School, but the Signal School has an assistant commandant of its own, "who shall be an officer of the Signal Corps."

The instructor, or head, of a department in any one of the schools has charge of that department in either one or both of the others schools in which his subjects are taught, but each school has its corps of assistant instructors separate and distinct from those of the other schools.

All officers at these schools, whether as members of the college staff or as student officers, have no post duties whatever, the duties of post and college being separate and distinct, with the exception of the commandant and post com-

mander, who are required by regulations to consult with each other in all matters of post administration affecting the interests of the school.

As a matter of fact, the commandant of the schools has an interest in all post administration and garrison work in so far as it relates to the schools in any way, and is consulted by the post commander in all such matters. On the other hand, the post commander has control of all post administration, instruction, drills, etc. Official correspondence between the schools and the War Department passes direct from the commandant to the military secretary, and all matters pertaining to the schools and the courses of instruction therein are exclusively under the control of the War Department.

All matters pertaining to the internal administration of the schools, the allotment of hours to the various departments, the arrangement of the periods for practical work, etc., are regulated by the Academic Board of each school, which board consists of the assistant commandant, the secretary, and the instructors in charge of departments, all of whom have a vote except the secretary.

The duties of the assistant commandant are to preside at all meetings of the Academic Board, supervise the methods of instruction in the various departments, visit the section rooms and lecture room during lectures, observe the outdoor practical work, and, in general, keep in close touch with all of the school and college work, both theoretical and practical, and keep the commandant fully informed in reference thereto.

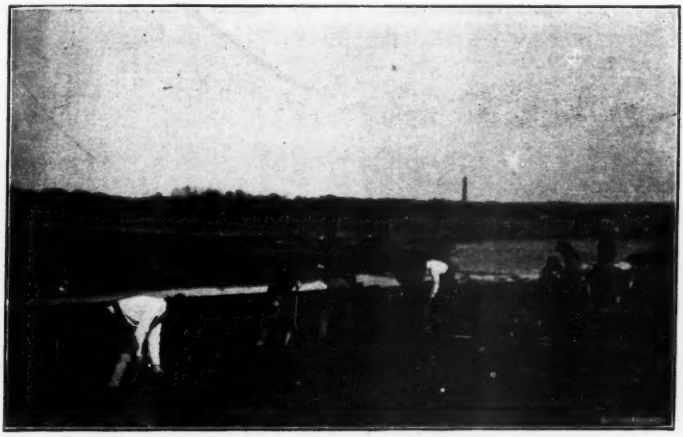
The commandant does not sit with the Academic Board during its deliberations, thus leaving himself free to approve or veto any measure passed by the board.

The duties of the secretary are practically those of an adjutant general, in addition to which he has the disbursement of the college allotment, and is responsible for all school property and for the library, which now contains about 14,000 volumes. He also has charge of the college printing office and the book bindery.

COURSE FOR 1903 TO 1904.

The course of 1903 opened September 14th with an address by the commandant to the entire class. Studies were commenced the next day in three departments: tactics, engineering and law. In the department of hygiene recitations did not commence until the second term.

The school year was divided into two terms; the first from September 15 to December 21, 1903; the second from January 4 to June 27, 1904. The two departments of tactics and



DIGGING TRENCHES.

engineering, to which most of the time was devoted, continued their work almost uninterruptedly throughout the year.

Ordinarily recitations were held in tactics from 9 to 10 A. M. for the first half, and from 10 to 11 A. M. for the second half of the class. The hour from 11 A. M. to noon was utilized for recitations in law for the two halves of the class alternating, or this hour was used for lectures for the entire class. Ordinarily recitations in engineering were held from 2 to 3 P. M. for the first half, and from 3 to 4 P. M. for the second half of the class. This arrangement gave each student officer two recitations in one day, and three on the next.

Practical work in the departments was usually divided into half days, but often an entire day was devoted to one problem. The half day consisted of the morning hours 8 A. M. to noon, or the afternoon hours 1 to 5 P. M. In case a problem required more time the students would remain out all day, notice being previously given, so that a lunch might be provided.

The class was divided into eight sections, each of about twelve students. This division was made alphabetically for the first term, and after January 1st according to standing at the end of the first term. The class consisted of ninety-one student officers, of whom twelve reported some time after the opening of the course.

DEPARTMENT OF TACTICS.

The course in this department was divided into five parts, of which security and information and hippology were finished during the first term, and organization and tactics, strategy, and field exercises occupied the second term.

Security and Information.—Instruction in this branch comprised lectures, advance and review recitations, section room problems, map problems, terrain walks, patrolling with troops, and preparation of problem. There were eleven advance and five review lessons in the authorized text book, "Wagner's Service of Security and Information." Each advance lesson comprised about twenty-four pages; each review lesson some fifty pages of the text. These recitations were conducted in the manner familiar to all. The following rules governed:

Recitations will begin by calling the roll of the section, each officer present, as his name is called, answering "Present," or "Here." This requirement will also apply to assemblages of the class, or portions of it, in the lecture or drafting rooms, or wherever necessary at outdoor practical work.

For the first ten minutes of the recitation hour, and no more, student officers will be permitted to ask questions about any portion of the lesson which is not understood.

Questions so asked must be explicit and addressed to definite points in the lesson of the day.

A student officer called up to recite will be given a topic or series of topics, either in writing or orally. These he will write on a blackboard, with synopsis, or outline of headings, with sufficient notes to fix the attention and serve as a guide during recitation.

In all work at the blackboard the name of the student officer will be placed in the upper right-hand corner of his board.



CONSTRUCTING FASCINE.

All work submitted on paper will be dated, and signed with name and rank in the lower right-hand corner.

For problems, all of the work involved, including computations and constructions, will be placed on the board or paper; results alone are not sufficient.

When problems of computations to be worked on paper are given, the student officer will sign his name and rank in the right lower corner and place his work on the assistant instructor's desk as soon as completed.

When prepared to recite at a blackboard, a student officer will take his seat until called upon by the assistant instructor to recite.

When called upon to recite, the student officer will hand in his slip, if he has received one, and will commence his recitation by announcing his subject as follows: "My subject is," etc., giving a terse statement of the subject which in his opinion embraces the topics assigned to him.

During the recitation he will stand in a soldierly position, habitually facing the instructor, glancing, when necessary, at the board, and indicating with the pointer the matter under discussion. When not in use for indicating, the pointer will be held in the position of "order arms" of the saber.

Any student officer who has prepared a board and has not been called upon to recite when the section is dismissed, will, before leaving the section room, write his subject at the top of the board.

Pronunciation, spelling and correct use of language and punctuations are considered in estimating the value of a recitation or an examination, and so also is the manner of delivery. Clear and concise statements indicate well formed and positive ideas, while indefinite and general statements indicate hazy ideas and will be valued accordingly.

The greatest difficulty encountered in the recitations was the size of the sections (twelve) and the limited time devoted to each recitation (one hour). This left only about four minutes for the work of each student officer, by no means enough to thoroughly instruct on the subject. In this limited time only a hearing of the text could be undertaken, and this is not a satisfactory method. There were four assistant instructors for this work, each one taking two sections daily. In future classes the size of the sections will be reduced by about one-half, so that more time can be devoted to each student and to the subject. Furthermore, since this branch is more or less thoroughly studied in the post school course, it is the intention to do away with formal recitations and replace them by quizzes, preceded by lectures that will treat of the subject more generally and broadly.

As an accompaniment to and for the purpose of rounding out the recitations, there were given out at the beginning of each recitation what were known as "section room problems."

These problems were drawn up by the instructor and so designed as to apply the principles laid down in the day's lesson. For the subject of patrolling, for example, the section room problems were taken from Captain Dickman's lecture on "Patrolling." This excellent lecture was published in No. 40 of the CAVALRY JOURNAL, and a perusal of the problems given there will afford an excellent idea as to the kind of section room problems utilized in the course.



CONSTRUCTING GABION.

Such problems were usually given to two students in each section, and whenever possible the answers submitted were looked over and criticised in the presence of the section before the time of dismissal. At first many of these problems were solved on maps directly; later on a larger scale map with a plate of glass superposed, and finally the large scale maps were placed in a frame under glass on the wall, and students required to make their dispositions directly thereon. A brush and India ink was used for this purpose and worked well. Later slightly ground glass plates were substituted for the plain ones, and on these it was easy to mark in the differently colored lead pencils. The solution thus could be seen by the entire section, and instruction was imparted to all.

The drawback in this method again is the lack of time. As there were only sixteen recitations, each student had but three such problems. When the latter method was adopted all got the benefit, however. There should be sufficient time for the solution and for subsequent discussion and criticism.

The practice in these section room problems was very useful when the map problems were taken up, which was the next step in the instruction.

For the solution of these problems the entire class was assembled at 8:30 A. M. A sample of such a problem is here reproduced:

PROBLEM NO. 1. SHEET NO. 1.

(INFANTRY.)

SECURITY AND INFORMATION.

EXERCISE IN PATROLLING ON THE MAP.

General Idea.

A large column of troops of Blues is advancing along the road—Colchester—Hinesburg—Fay's Corners—Swanton.

An inferior force of Browns is supposed to be on the general line—York Hill—Charlotte—Winston Woods.

Special Idea (Blue).

The advance guard consists of two battalions of infantry (800 men). The reserve of the advance guard (one battalion of infantry, 400 men) has arrived at the forks of the road 150 yards northeast of Section House No. 2 at the southwest entrance to the tunnel northeast of Colchester. The commander of the advance guard (marching with the reserve) orders you to take a patrol toward the right flank of the column for the purpose of establishing and keeping contact with the enemy.

Note: This sheet and a map to be give to student at beginning of exercise 8:40 A. M.

SHEET NO. 2.

The solution to the following questions must be handed in to the instructor at 9:40 A. M.

Question No. 1.

(*a*) Write out the orders that the commander of the advance guard should give to this patrol.

(*b*) How many men will you take, and why?

(*c*) What inspection of the men composing the patrol do you make?

(*d*) What route will you take?

(*e*) What formation will you give to the patrol?

(*f*) Draw on the map the position of the advance guard and of the patrol at fifteen minutes after leaving the forks of the road.

Note: This sheet to be given to the student at 8:50 A. M.

SHEET NO. 3.

Special Idea (Blue) Continued.

Your patrol has arrived at the bridge across Sucker Brook near Section House No. 4. No enemy has been seen, but inhabitants on the road say that small parties of Browns were in the locality earlier in the day.

The solution to the following questions must be handed in to the instructor at 10:00 A. M.

Question 2.

(*a*) Write out the message you would send in concerning the information gained from the inhabitants (on message blank).

(*b*) What route do you now select for your patrol?

Note: This sheet and a new map to be given to the student at 9:40 A. M.

SHEET NO. 4.

Special Idea (Blue) Continued.

Your patrol has advanced to the clump of trees south of and nearest to the town of Charlotte. About 1,500 yards to the east you have seen several small parties of the enemy

(Browns) and inhabitants report the enemy in force to the north.

The solution to the following questions must be handed in to the instructor at 10:30 A. M.:

Question 3.

(*a*) How would your patrol proceed now? What route would you choose? How is the town of Charlotte passed?

(*b*) The reserve being at Hinesburg, would you have a connecting file? If so, where would he march?

(*c*) Write the message you would send at this time (on a message blank).

Note: This sheet is to be handed to the student at 10 A. M.

SHEET NO. 5.

Special Idea (Blue) Continued.

Your patrol is in the clump of trees just south of Booth's Mill. You have observed two hostile infantrymen in the clump of trees east from Section House No. 2 at contour 340 at edge of map. You also observe infantrymen (evidently two) in the southern edge of Winston Wood.

The solution of the following questions must be handed in to the instructor at 11 A. M.:

Question 4.

(*a*) What do you conclude from your observations?

(*b*) Write out the message you would send (on a message blank).

(*c*) How will you send the message?

(*d*) What route should be followed by the messenger to reach the reserve at the copper mines?

(*e*) Do your messengers return to you?

Note: This sheet to be handed to the student at 10:30 A. M.

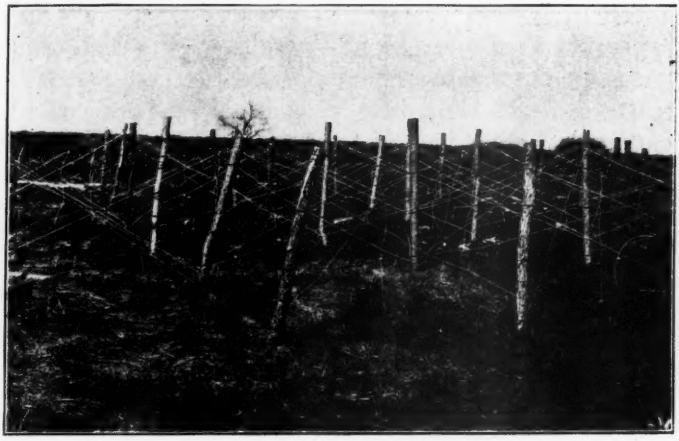
SHEET NO. 6.

Special Idea (Blue) Continued.

Your patrol has reached the cut in the road east of Addison, and you receive word that your own column has halted

for the day. The entire advance guard (800 men) is to camp at Fay's Corners, and, independently of the main body, is to cover its front (to the north) and its right flank (to the east) by an outpost.

The solution of the following questions must be handed in to the instructor at 11:50 A. M.:



HIGH WIRE ENTANGLEMENT.

Question 5.

(*a*) What should your patrol do now?

(*b*) When will your patrol return to its company?

(*c*) Indicate on the map the position for the outpost under the assumption that the two battalions post their own, their rear being guarded by the main body.

Note: This sheet to be given to the student at 11:00 A. M.

The map used in this connection is the one reproduced in No. 40 of the CAVALRY JOURNAL.

The plan of dividing up the problem into sheets was intentional, and was done for the purpose of making the problem a continuous one, and yet limit the time devoted to any part. In practical tactics time is an important element, and it was sought to introduce this element into the map problems, which are necessarily largely theoretical.

As seen from the notes on the various sheets the solutions required had to be handed in at the end of a certain period. This had the further advantage of allowing the problem to be continuous just as the work of the patrol would be in actual practice. To issue all the sheets would have directed the solutions in one channel, that is, the one conceived by the author of the problem. It was sought by this plan to approximate closely to the actual conduct of the patrol in the terrain. There is another obvious advantage in this system of elements for problems, viz: the students, after handing in their answers, obtain a partial solution of the previous elements in the special idea of the next sheet, and this brings all the students back to the same starting point. For individual instruction this is not necessary or even desirable, but where so many work together and their solutions must be considered together, this is the only practical means. Another method out of the difficulty would be to give a series of short problems wholly independent of each other, but in this case the interest cannot be maintained.

This system of subdividing problems into elements according to time was used wherever practicable throughout the course. A test of the method is all that is necessary to recommend it, and the writer believes it is capable of much wider application, as for example, to maneuvers with troops.

The solutions to these problems were carefully considered by the instructor, and when all had been marked, the class was assembled for a discussion of the problem. Good solutions and erroneous ones were shown and illustrated on the maps. The principal errors were pointed out and the principles upon which the solutions rested again rehearsed. This course was a good one, and had the direct result of connecting the text and the principles therein enunciated with practice under certain assumed conditions.

The difficulties encountered in the course were due mainly to a lack of knowledge in map and contour reading, but the exercise gave splendid instruction in this valuable branch. Improvement in the course can be made by devoting time, which was unfortunately not available, to in-

dividual solutions, and explaining each student's errors to him in person.

The next step after the map problems was to take the students on the terrain and repeat the same or similar exercises, still however without troops. For these terrain walks as they were termed, twelve student officers were grouped under an instructor and a half day devoted to a walk of about four miles.

An example of one of these problems here follows. Similar ones can be made to suit the terrain.

PROBLEM NO. 4. SHEET NO. 1.

(INFANTRY.)

SECURITY AND INFORMATION.

EXERCISE IN PATROLLING IN THE TERRAIN WITHOUT TROOPS.

General Idea.

A column of troops (Blues) is on the march from the north on the road through the post of Fort Leavenworth via the cemetery, Hancock Avenue, Garden Road, Atchison Cross.

Mounted patrols and detachments of the enemy (Brown) have been reported in the city of Leavenworth.

Special Idea (Blue).

The advance guard of the Blues consists of one battalion of infantry (four companies of 100 men each). The support of this advance guard consisting of one company of infantry has arrived at the junction of Pope and Hancock Avenues. You have been previously detached as an intermediate flank patrol. A large patrol is operating along the river road. You have arrived at North Merritt Hill and your orders are to advance along Grant Avenue to South Merritt Hill.

The solution to the following questions must be handed to the instructor fifteen minutes after receiving this sheet.

Question No. 1.

(*a*) How many men should you have in the patrol, and why?

(*b*) What will be the formation and position of your patrol while you are in observation on North Merritt Hill?

(*c*) How do you proceed to South Merritt Hill? (Indicating how the patrol will advance.)

This sheet to be given to the student on arrival of the party on North Merritt Hill.

SHEET NO. 2.

Special Idea (*Blue*) *Continued.*

You are on Grant Avenue at the outlet of Merritt Lake, and a countryman coming from the south is brought to you. He states that there are a number of Brown cavalrymen in the city of Leavenworth, and he saw several parties of three or four mounted men near Metropolitan Avenue.

The solution to the following questions must be handed to the instructor fifteen minutes after receiving this sheet.

Question 2.

(*a*) State what questions you would ask this man.

(*b*) What would you do with him?

(*c*) Write out the message you would send to your superior (on a message blank).

This sheet is to be given to the student at Merritt Lake on Grant Avenue.

SHEET NO. 3.

Special Idea (*Blue*) *Continued.*

You have arrived on South Merritt Hill with your patrol.

The solution to the following questions must be handed in to the instructor twenty minutes after receiving this sheet.

Question 3.

Give a simple description of the terrain to the south and southwest.

This sheet to be handed to the student on arriving on the southern point of South Merritt Hill.

SHEET NO. 4.

Special Idea (Blue) Continued

The patrol has arrived at a point on Grant Avenue half way between Pope Hill and the bridge over Corral Creek. Your point has reported to you that he saw four mounted men of the Browns going south near Grant Hill and you yourself see several mounted men (Brown) disappearing to the south to the right of that brick house.



CONSTRUCTING ABATIS.

The solution to the following questions must be handed in to the instructor twenty minutes after receiving this sheet.

Question 4.

(*a*) What do you conclude from the information gained?

(*b*) What will you do now?

(*c*) How do you proceed?

(*d*) Write out the report you would send to your superior (on a message blank).

This sheet to be handed to the student on arrival on Grant Avenue half way between Pope Hill and the bridge over Corral Creek.

PROBLEM NO. 4. SHEET NO. 5.

(INFANTRY.)

SECURITY AND INFORMATION.

EXERCISE IN PATROLLING IN THE TERRAIN, WITHOUT TROOPS.

Special Idea (Blue) Continued.

You have arrived at the bridge on Grant Avenue over Corral Creek.

The solution to the following questions must be handed in to the instructor twenty-five minutes after receiving this sheet.

Question 5.

Write a description of the bridges at this point.

This sheet to be handed to the student on arrival on Grant Avenue on the bridge over Corral Creek.

PROBLEM NO. 4. SHEET NO. 6.

(INFANTRY.)

SECURITY AND INFORMATION.

EXERCISE IN PATROLLING IN THE TERRAIN, WITHOUT TROOPS.

Special Idea (Blue) Continued.

Estimating the strength of marching columns, etc.

The solution to the following questions must be handed in to the instructor thirty minutes after receiving this sheet.

Note: In estimating strength make no allowance for opening or tailing out.

(A battery of light artillery has eighteen vehicles, guns and carriages.)

Question 6.

You observe a body of infantry in columns of fours on the road with the head on line with target range house and the end at the garden house at edge of wood near cemetery.

(*a*) How many men in the column?

You observe a body of cavalry in column of twos on the road with the head on line with target range house and the end just coming over crest of hill to right of railway cuts.

(*b*) How many troopers in the column?

You observe a body of troops marching along the garden road and mark the time it takes to pass that clump of trees under railway cut. Infantry in column of fours six minutes, followed by artillery in route march fourteen minutes, followed by cavalry in column of twos sixteen minutes, followed by infantry in column of fours eighteen minutes, followed by a wagon train nineteen minutes.

(*c*) How many infantry, cavalry, guns and wagons are there in the column?

(*d*) What organizations are they most likely to be?

(*e*) How long is the entire column?

This sheet to be handed to the student upon arriving at Grant Hill.

The terrain walks were of great benefit and were later extended so as to give more practice. Improvement on the method in use is possible if more time is available. If only two or three students go with each instructor, the solution may be given by the student verbally and errors pointed out at the time. This method takes much time, but will be the ideal one for such instruction.

When a student has solved a problem, he is not so much interested in the solution of others. What he wishes to know is "why his solution is not correct and good." By taking his solution and pointing out the manifest errors, more good will be accomplished than by announcing a model solution, no matter how carefully this model may have been worked out. In this instruction we must recognize the principle that tactical solutions depend upon circumstances. Of these circumstances the personality, or better the "personal equation," of the student is one of the most important. To hold up a model solution involves the disregard of this "personal equation." If this principle is recognized, it is seen that in tactical problems individual instruction is the only method that will bring forth the best result. This applies in a lesser degree to all instruction, but for tactical problems has an immense weight.

The next step in the course was "Patrolling with

Troops." A general idea was formulated upon which as a framework all the separate premises were formed.

The general idea was the same for all patrols, each taking a separate route, so that twelve patrols, each under an instructor as umpire, could be sent out each half day.

The following is the general idea used for these patrols.

PROBLEM NO. 11. SHEET NO. 1.

SECURITY AND INFORMATION.

EXERCISES IN PATROLLING ON THE TERRAIN WITH TROOPS.

General Idea.

A large column of Blues is advancing in Missouri from the east toward Fort Leavenworth, with the intention of occupying that place. The advance guard has reached the Rock Island bridge and encountered no opposition.

A force of Browns is known to be advancing from the south of the city of Leavenworth, from the direction of the Frenchman's, and from the direction of Kickapoo, but his exact location is unknown and no patrols have been seen.

Special Idea (Blue).

The support of the advance guard of your force has just crossed the bridge, and the commander of the advance guard, who is with the support, has sent out six patrols in various directions to reconnoiter the terrain, and, if possible, to establish contact with the enemy and keep it.

You are in charge of one of these patrols and have orders as follows:

You will establish contact with the enemy and keep it. What is known of the enemy is indicated above.

As the terrain, I will furnish you with this map (Ft. L.). The direction will be so as to cover the ground on the map enclosed in the red lines drawn thereon (your own sector).

Other patrols will be in the territory adjacent to yours, one on your left and one on your right, and will reconnoiter the territory up to the lines limiting your sector.

You will remain out until ordered in by the umpire.

All messages and reports will be sent to me at Sherman Hall or handed to the instructor if present.

This sheet to be handed to the student at assembly.

This exercise was given simply to serve as a model or suggestion for student officers in the instruction of their noncommissioned officers when they again joined their organization. If time permitted, more of these exercise could be added to advantage, but even the one undertaking will



GABION AND SAND BAG REVETMENT.

serve a useful purpose. To afford each of the ninety-one student officers an opportunity to command a patrol, devolved an abnormal amount of work on the instructors, and an increase in the number of exercises, was precluded on account of the lack of umpires.

Other practical work with larger forces was postponed until the second course, so as to give the students instruction in tactics. These problems included outposts, advance and rear guards and cavalry screen.

Soon after the practical exercises each student was required to submit a thesis on the course. It has usually been the rule to allow each student to select his own subject for this thesis, but a new method was inaugurated. One theme was chosen by the instructor for all students as follows:

THESIS.

Security and Information.

In accordance with Par. 25, Regulations and Program of Instruction of the General Service and Staff College, published in G. O. No. 90, A. G. O. 1903, a thesis of not less than 2,000 nor more than 5,000 words will be prepared by each student officer and handed in to the instructor of the Department of Tactics not later than noon, December 21, 1903.

BY OFFICERS OF INFANTRY.

Subject of Thesis.

Method best suited in the United States army for imparting practical instruction in Security and Information to the noncommissioned officers of a company of infantry, including a scheme for progressive exercises on the subject.

BY OFFICERS OF CAVALRY.

Subject of Thesis.

[Same as above, but for troop of cavalry.]

The work of the student class in these theses was exceptionally good. Two of the theses were published in the CAVALRY JOURNAL, the first by Lieutenant Massee in the April 1904 number; the second by Captain Craig in the July 1904 number.

A written examination on the subject completed the course. The results of this examination were remarkably satisfactory. A high standard was set for subsequent classes at the school.

Hippology.—This course embraced lectures, advance and review recitations, practical demonstrations and practical tests, riding lessons and a written examination. Recitations were conducted in the usual manner, except that each day three students from each section were sent to the riding hall where recitations were held, using the actual horse in the demonstrations. Then each student had some few recitations which were conducted by the senior assistant instructor and the veterinarian. The only improvement that sug-

gests itself in regard to these recitations is to hold them all in the practical manner indicated above. This cannot be done throughout the course, but much will be gained by having the subject before the student. A certain number of theoretical recitations are necessary, but they should be reduced to the minimum.

The lectures were so arranged as to keep in touch with the advance in the book. They covered the entire course and were of great benefit. A careful preparation of lectures will afford an opportunity of curtailing much of the theoretical work in the book, and allow cutting out certain chapters from recitations. It would not do to neglect these chapters entirely.

The practical demonstrations were given so as to keep pace with the program in the text. It is difficult always to arrange a course so as to have first a lecture, then a recitation and then a practical demonstration, with so large a class and so limited a number of instructors, but the sequence of instruction was adhered to as closely as possible.

There were two practical tests of the knowledge acquired. The first was determination of age by examination of teeth. Each student officer was required to record the age of three horses, and it was remarkable how closely the results approximated to the recorded ages of the horses. The second test was an examination for soundness and conformation. Each student officer had to report upon three horses, as to their serviceability for the service. The results were well worth the time spent upon this branch of the subject.

The riding lessons were pursued under some difficulties. The class was large, the time of the students was already crowded, and only a small riding hall was available, which had to be used by eleven organizations at the post. Several innovations were made in this course. Whitman saddles were procured, with the idea of teaching a better seat. Great attention was paid to this feature and to giving officers a presentable appearance on horseback. It is contemplated to establish a mounted service detachment separate from troops at the post, and to provide a better class of mounts. Besides these improvements, addition of another riding hall

to the equipment of the post will afford better opportunity for instruction in riding.

The written examination in hippology completed the first term, after which a vacation was granted to all student officers until January 4, 1904.

During the second term more time relatively was assigned to the Department of Tactics.

Organization and Tactics.—This course comprised lectures, recitations, section room and map problems and practical work.

The attempt was made to bring the problems and the recitations together, so that application went hand in hand with theory. To do this the course was thoroughly mapped out, and a schedule of recitations, lectures and problems for the entire term was prepared. There were twelve problems in all relating to the subjects in the book. The problems were in pairs and embraced the following: Organization; infantry in attack and defense; cavalry in attack and defense; artillery in attack and defense. The arms combined in attack and defense and convoys. In each series two problems were solved, the first a preliminary one which was given out as soon as the subject was finished in the text book. The solutions to this problem were carefully scrutinized, and then a discussion followed pointing out the errors and discrepancies. As soon as practicable after this discussion the record problem followed, the solutions to which were marked and used in grading the students in their standing. For these problems the West Point, Kentucky, maneuver map was usually used.

Great attention was paid to the writing of orders, and models of various kinds of orders were furnished, of which the following is a specimen for a march in advance of a force composed of all arms.

FIELD ORDERS, No.... TROOPS.	PLACE DATE. HOUR.
1. *Advance Guard* (C. O.) Cavalry. Infantry. Artillery. Engineers. Hospital Corps (rarely).	1. Information as to the enemy, and *our other forces.* 2. *Intentions of the Commanding Officer.* (In the most general terms.) 3. (*a*) *Order for the advance guard.* (Time of starting; place whence it will start; road by which it will march; reconnaissance to be made; communication to be maintained with parallel columns, etc.; special duties.)
2. Main body (in order of march). Cavalry. Infantry. Artillery. Infantry. Engineers. Hospital Corps.	(*b*) *Order for the main body.* (Distance to be preserved from the advance guard, or time and place of starting.) (*c*) *Order for the flank guard.* (Similar to advance guard order, but with special mention, as a rule, of reconnaissance duty. Sometimes the point at which the flank guard is to be detached is stated.)
3. *Right* (*left*) *Flank Guard.* (C. O.) Troops named as in Advance Guard.	(*d*) *Order for the outposts.* (Instructions as to how they are to join the column.) 4. *Order for the baggage.* (Party detailed to conduct it, distance from main body, or special arrangements.) 5. Position of the Commanding Officer — at the beginning of the march, and sometimes subsequent positions.
Method of furnishing copies to troops.	Signature:

The preliminary and record problem were similar, but sufficiently distinct as to require new assumptions and other terrain.

The following is an example of one of the preliminary problems on the West Point map.

PROBLEM 5. ORGANIZATION AND TACTICS.

General Idea.

The Blue army is concentrating north of the Ohio River, with a view to operating south of that river. The cavalry screen has crossed to the southern side of that river, and is holding the bridges over it, pending the concentration of the army.

The Brown army is concentrating somewhere south of the Ohio, but its exact position is not known.

Otter Creek is not fordable at any point on account of recent heavy rains and the "spring rise" of the Ohio River.

Special Idea (Blue).

The First Brigade, First Cavalry Division, is camped at West Point. You command the First Squadron, Eighth Cavalry, in this brigade. At 5:00 P. M. April 3, 1904, you receive the following order:

FIELD ORDERS, } FIRST CAVALRY,
No. 28. } WEST POINT, KY., April 3, 1904, 4:00 P. M.

Troops.

1. First Squadron, Maj. J. T. L.

2. Second Squadron, Maj. T. P. H.

3. Third Squadron, Maj. P. H. F. (less Troop M.)

1. It is reported that a force of hostile cavalry, probably the enemy's cavalry screen, is advancing from the southwest. Small, mounted patrols were seen to-day thirty miles southwest of West Point.

2. This regiment will reconnoiter toward the southwest to-morrow, and will occupy the line of Otter Creek.

3. (*a*) The first squadron will march at 6:00 A. M., by the L. & N. Pike and Muldraugh-Garnettsville Road. The squadron commander will have important side roads north of his main road, and between Cross Roads No. 55 and Otter Creek reconnoitered, and will keep up communication with the second squadron. He will have the two wooden bridges at Griffith and Fitch and the wooden railway bridge at Christ destroyed. He will have the main road reconnoitered about ten miles beyond Garnettsville, and will take up a position to hold the two (2) bridges at Garnettsville.

(*b*) The second squadron will march at 6:10 A. M. by the L. & N. Pike and Tiptop-Grahampton Road.

4. (*a*) Two days' rations and one day's grain will be carried in saddle-pockets.

(*b*) The ammunition wagons and supply train with five days' rations and six days' grain will move at 8:00 A. M. to Grimes' farm (Cross Roads No. 49), under escort of Troop M.

5. Messengers will find the regimental commander at Grimes' farm (Cross Roads No. 49).

By order of

COL. W. G. D.,
C. S. B.,
Adjutant.

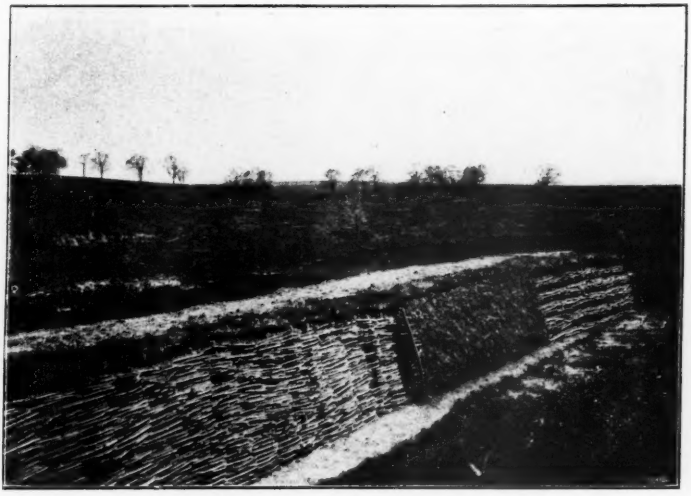
(Dictated to squadron commanders.)

Note: In the reconnaissance no sign of the enemy is found east of Otter Creek. At about eight miles beyond Garnettsville your patrol meets a stronger hostile cavalry patrol, and is driven back to Garnettsville, losing two men

killed, the hostile patrol pursuing it to within a mile of Garnettsville.

Required:

1. Statement of your plan of action.
2. Measures you take to hold the bridge.
3. Orders issued and reports sent back to the regimental commander.



CONTINUOUS HURDLE, SOD AND FASCINE REVETMENT.

4. A tracing with diagram of your dispositions for defense of the bridges at Garnettsville (omit position of the outposts).

In these problems it was the aim of the department to keep the instruction within the scope of the student's probable duties. The maneuvering of army corps or divisions or even brigades was not attempted. Where larger forces were employed only the adjutant's duty was required of the student officer in the solution. It was presumed that any of these students might be called upon to put the orders of a superior officer into shape, and the instruction was directed principally with this in view.

Usually half a day was devoted to the solution of these problems, and a time limit set. In actual field operations there is a time limit, and a close one, and it is best to introduce all conditions possible provided the simulations are not strained and unnatural.

The map problems afford an excellent means of transition from the text to practical work. As in security and information the only improvement that suggests itself, is the giving more time to criticism of each individual's solution. The transition from the theory of the text book to actual field conditions is still further simplified by the introduction of the war game and terrain rides.

It was impracticable to devote more than two half days for each student officer to the war game, but if we remember that the object of the course is to point out the way for further self-instruction and for instruction of others, it will be seen that this time was probably sufficient. The idea was to conduct the war game with all its refinements, so that the student officers would be thoroughly acquainted with the entire procedure. In this way it will be possible for them to select that part of the complete game which is best suited for the purpose they have in hand.

After the war game the terrain rides were taken up and careful attention given to this branch. Leaving out maneuvers, this affords the quickest and best means of imparting practical instruction. Terrain rides can be instituted anywhere and without special preparation. They are extremely interesting. The two important elements of time and distance are actual, or can be made so. Outside of the actual contact of troops very little else is missing. This instruction is suitable for any kind of class from privates to general officers, the only requirement being that there must be a good instructor. The following problem is an example of those solved during the course:

PROBLEM NO. 17. SHEET NO. 1.

TERRAIN RIDE. CAVALRY SCREEN.

A Brown army with its right flank on the Missouri River, is operating from Kansas City towards a Blue army at Atchison. The object of the Brown army is to engage the Blues wherever found. The right of the advance of the Browns consists of the First Division, First Army Corps, and it has



BUILDING PALISADE.

specific orders to hold the right of the Brown line, to guard against a hostile advance along the right bank of the Missouri River. If the enemy is encountered in superior numbers, the division is to seize an advantageous position and hold it until the arrival of reinforcements.

This First Division went into camp at 2:30 P. M. yesterday at Lansing (three miles south of Soldiers' Home), with the intention of continuing its march via Leavenworth and the Atchison Pike the next day.

At 3 P. M. the First U. S. Cavalry reports at Lansing for duty with the division. The division commander having received information that the enemy may be encountered

between Leavenworth and Atchison, decides to use the entire First Cavalry as a screening force for the next day's march and issues orders to that effect.

Required.—1. Those paragraphs of the order of the division commander, which relate to the First Cavalry.

Required.—2. (Supposing that the order of the division commander was received at 5 P. M.) the orders of the commanding officer, First Cavalry, for to-day's march.

Time allowed for solution ——— minutes.

SHEET NO. 2.

The First Cavalry covering the front of the First Division has carried out the orders of the regimental commander and the march has progressed so that the reserve of the cavalry screen is at this point (corner of Metropolitan and Grant Avenues).

Required.—1. A brief statement showing the distribution of the regiment on this screening duty, the position of all parts of the screen.

2. Where is the head of the advance guard of the division?

3. What dispositions are made for the conveyance of intelligence between parts of the screen and to the division commander?

Time allowed for solution ——— minutes.

SHEET NO. 3.

The commander of the cavalry has ridden forward to this point (Atchison Pike near reservation line). The right support consisting of two troops (A and B) is at 3; the left support consisting of two troops (E and F) is at 8.

Required.—1. Give the position and formation of the contact troops and their patrols.

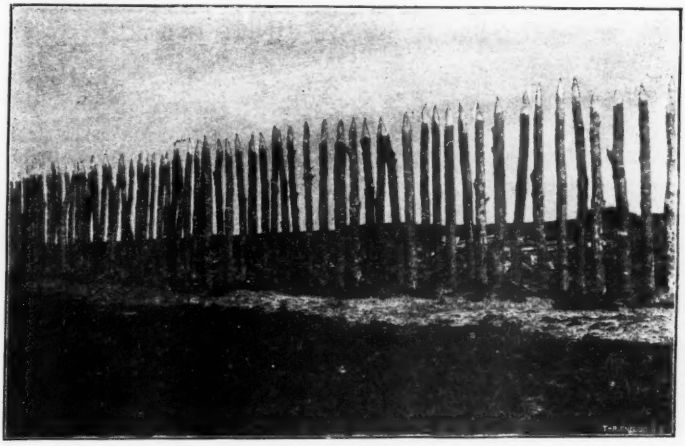
The cavalry screen commander receives messages from both the right and left support commanders, stating that what appear to be small hostile cavalry patrols have been observed advancing in our direction on all the roads, but that they are too far distant to admit of any more definite information.

Required.—What should the cavalry screen commander do?

Time allowed for solution ——— minutes.

SHEET NO. 4.

The cavalry screen commander has ridden forward to this point (F, on the Atchison Pike) and finds here one of the contact troops, G, of the left wing of the screen.



PALISADE.

From the information gathered from this troop, and from other sources, he learns that the Blues are advancing from the northwest, in numbers greatly superior to the Brown division, with the intention of forcing the right flank of the Brown army.

Required.— 1. Outline the general plan of the commander of the cavalry screen.

2. The message sent by him to the division commander.

3. The orders issued by the cavalry screen commander.

Time allowed for solution ——— minutes.

After the conclusion of the theoretical course the entire time of the department was taken up by practical work, according to the following notice:

Practical work in the Department of Tactics will commence May 5th, and be continued to the end of the term, June 30th.

The monthly calendars, as published, show the allotment of time to the department, and sections will report at Sherman Hall on the date and hours specified therein. Details of sections or individuals to report at other places or at other hours will be posted on the Department of Tactics' bulletin board. The bulletin board must be inspected daily after 12 noon by each student officer, and each officer will be held responsible for a full knowledge of notices posted thereon.

Officers will be detailed as engineer or topographical officers in connection with field exercises, and when detailed for such duty will report to the instructor in engineering, equipped for either mounted or dismounted road-sketching, as provided for by the detail, and will be graded on the performance of the duty assigned them by the staff of the Engineer Department.

Knowledge required for the solution of the problems embraces everything taught in the department in the two courses of *Security and Information* and *Organization and Tactics*, and also a knowledge of the drill regulations of the student's arm of the service.

COURSE IN PRACTICAL WORK.

The course comprises a series of exercises illustrating the principles of the above subjects in combination as far as they have been taught in the department, without repeating any of the practical map problems had previously.

There will be three problems relating to each subject selected for practical illustration: (1) a map problem; (2) a problem (terrain ride) on the terrain, without troops; and (3) a problem (field exercise) on the terrain, with troops. The foregoing will be supplemented by exercises in the wargame on the map, which are not to be marked.

The exercises will be taken up in the following order:

Problem 13. Field exercise. Practice march and march of concentration, with troops on the terrain.
Problem 14. Terrain ride. Location and defense of outposts (all arms).
Problem 15. Terrain ride. Occupation of position (all arms).
Problem 16. Terrain ride. Operation of advance and rear guard (all arms).
Problem 17. Terrain ride. Conduct of cavalry screen.
Problem 18. Map problem. Practice march (all arms).
Problem 19. Map problem. Outposts of all arms.
Problem 20. Map problem. Attack and defense of position (all arms).
Problem 21. Map problem. Operation of advance and rear guard (all arms).
Problem 22. Map problem. Conduct of cavalry screen.
Problem 23. Field exercise with troops, illustrating the occupation and defense of an outpost position.
Problem 24. Field exercise with troops, illustrating the operations of advance and rear guards.
Problem 25. Field exercise with troops, illustrating the conduct of a cavalry screen.
Problem 26. Field exercise with troops, illustrating attack and defense of a convoy.
Problem 27. Field exercise with troops, illustrating the attack and defense of a position.

Further time allotted to the Department of Tactics will be taken up by exercises in the war-game on the map and emergency terrain rides.

If it rains, or in case of interference with the schedule from any cause, the details posted for the day will lapse, to be repeated at the first available opportunity.

As a signal that the field exercise for any day has been suspended, red signal flags will be displayed on the flag staff at the college building and from the post headquarters building.

In order that all student officers may have equal tasks in the exercises and thus place them on an equitable basis for marking, the same problems have to be repeated several times. On that account student officers will refrain from dis-

cussion of the problems, and are forbidden to either convey to or seek from other student officers information derived from observation or experience in previous executions of problems, until the publication of the marks.

Marks will be assigned on these exercises, each one being divided into elements, weighted according to their relative importance and the time required for solution.

In the terrain rides, "personal equipment" will be one of the elements.

In each exercise with troops, the following elements only will as a general rule be graded, namely: "Promptness at rendezvous," "personal equipment," "formation of troops," "inspection of troops," "manner of giving instructions and directions," "conduct of marches," "manner of exercising command," "accuracy in estimating time required in execution of all essential features of problems or exercise," and "compliance with Field Exercise Rules."

As it is impossible to umpire and grade all the elements of field exercise in accordance with any fixed definite standard, and as it is also impracticable to assign the same function in each and every exercise to each student officer, or even to assign functions to each student officer of similar and equal importance in all the exercises, also because it is impracticable for one umpire to grade the work of each student officer, or for umpires to eliminate their own individual equation, no effort will be made, as a rule, to grade the tactical dispositions and performances of student officers in field exercises, other than to the limited extent described above. But umpires will be required to report whenever student officers permit or commit plain violations of *well known* and *important* tactical principles, and the officer responsible for such violations will be cut in grade by the instructor of the department in proportion to the importance of the principles violated.

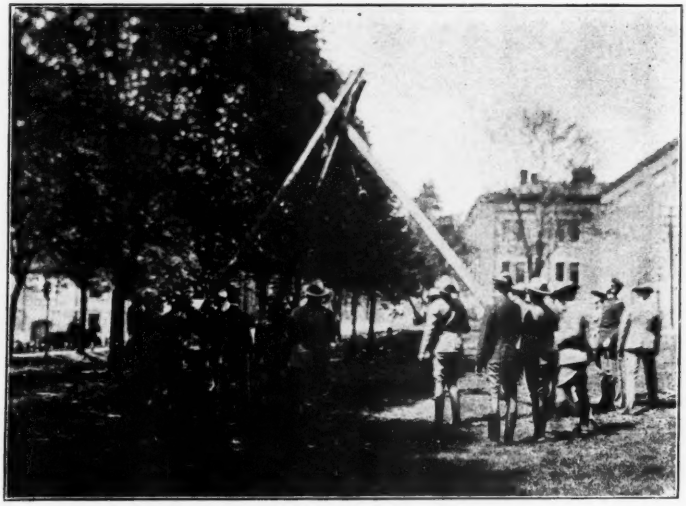
Student officers detailed for practical work should report properly equipped, and provided with legal-cap paper, a supply of which may be had on application to the Secretary. Solution, reports, etc., must be on legal-cap paper, unless otherwise directed.

Besides the terrain ride it will suffice to give one example of the problems with troops and the following of the practice march and march of concentration is here added.

PROBLEM NO. 13. SHEET 1.

PRACTICE MARCH WITH TROOPS. INSTRUCTION FOR BATTALION COMMANDERS.

Six student officers (names furnished you herewith) ten sergeants, twelve corporals, and eighty-four privates, are ordered to report to you at the southeast corner of the West End Parade at — A. M.



GIN.

Assume command of this force and form it into a battalion of three equal companies, each of two platoons.

After forming the battalion, march it via the cavalry drill ground and the Atchison Pike to the Frenchman's (E).

At this point the platoons separate and each marches under command of an officer over its designated route to the rendezvous at the southwest corner of the old prison. The exact time when all the platoons are to concentrate at the rendezvous will be announced to the platoon commanders by you, and so fixed that the one having the longest march will

have thirty minutes rest at the initial point (the Frenchman's).

After the concentration at the prison a rest of ten minutes will be given; then form the battalion, march it to Pope Avenue in front of the infantry barracks and dismiss it.

The march will be made in accordance with Pars. 657 and 658 Infantry Drill Regulations, modified as the circumstances may require, each march to be considered as from an original start.

SHEET 2.

ROUTES FOR INFANTRY MARCHES AND INSTRUCTIONS FOR PLATOON COMMANDERS.

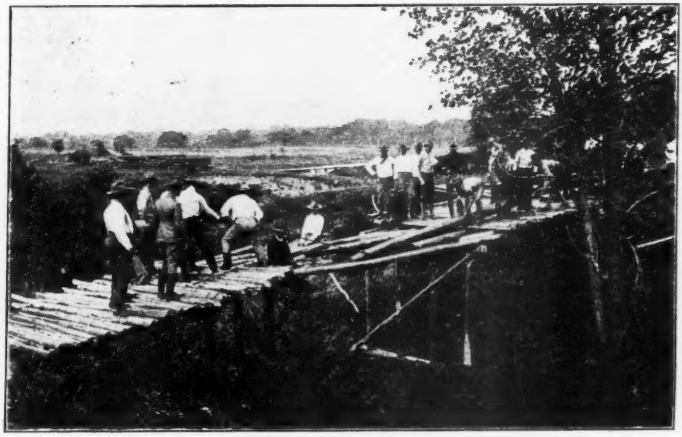
1st Platoon 1st Company.	From E (Frenchman's) to 5 (Taylor's) and then along Millwood Road via Penn Lake to southwest corner of old prison.
2d Platoon 1st Company.	From E (Frenchman's) by shortest road to Sheridan's Drive, above railway cuts; along Sheridan's Drive via Hancock Hill and Penn Lake to southwest corner of old prison.
1st Platoon 2d Company.	From E (Frenchman's) by shortest line to Sheridan's Drive, above railway cuts; along Sheridan's Drive to the Quarry near the Loop, then via McPherson and McClellan Avenues to southwest corner of old prison.
2d Platoon 2d Company.	From E (Frenchman's) along Atchison Pike to Atchison Cross (C) then to B and via Hancock Avenue, Pope Avenue, and McClellan Avenue to the southwest corner of the old prison.
1st Platoon 3d Company.	From E (Frenchman's) along Atchison Pike to Atchison Cross to New Penitentiary, thence north to National Cemetery and via Pope and McClellan Avenues to southwest corner of old prison.
2d Platoon 3d Company.	From E (Frenchman's) along Atchison Pike to Atchison Cross, then via the New Penitentiary to Grant Avenue and along Grant Avenue via Grant Monument and Pope Hall to southwest corner of old prison.

The marches will be conducted in accordance with Pars. 657 and 658, Infantry Drill Regulations, modified as the circumstances may require and considered as from an original start.

SHEET 3.

INSTRUCTION FOR TROOP COMMANDER.

Three student officers (names attached hereto), four sergeants, six corporals, and forty-two privates are ordered to report to you at the northeast corner of the West End Parade at —— A. M.



TRESTLE BRIDGE WITH ROUND TIMBERS.

Assume command of this force and form it into a troop of three equal platoons.

After the formation march the troop via the cavalry drill ground and the Atchison Pike to Kennedy's G. At this point the platoons will separate and each march under its officer over the designated route to the rendezvous at the Frenchman's E. The exact time when all the platoons are to concentrate at the rendezvous is to be announced by you and so fixed that the one having the longest march will have thirty minutes rest at the initial point (Kennedy's).

After the concentration at the Frenchman's, a rest of fif-

teen minutes will be given, then form the troop and march it by the most direct route to the cavalry stables and dismiss it.

The march will be made in accordance with paragraphs 981 and 982, Cavalry Drill Regulations, modified as circumstances may require. Each march, except the final march in, to be considered as from an original start.

SHEET 4.

ROUTES FOR CAVALRY MARCHES AND INSTRUCTIONS FOR PLATOON COMMANDERS.

1st Platoon.—From Kennedy's (G) west to McGaw's (22), south to Heintzleman's (28), east to Salt Creek (14), north to Atchison Pike (F) and to the Frenchman's (E).

2d Platoon.—From Kennedy's (G) northwest and west to Lowemont (K), south to 24, east 20 and 18, east to 16, north to F, and along Atchison Pike to Frenchman's (E).

3d Platoon.—From Kennedy's (G) north to Hoberg's (25), west to 39 and north to 37, east to Spencer's (13), and through Kickapoo to the Frenchman's.

The marches will be executed in accordance with Paragraphs 981 and 982, Cavalry Drill Regulations, modified as circumstances may require, each march to be considered as from an original start.

PROBLEM NO. 13. SHEET 5.

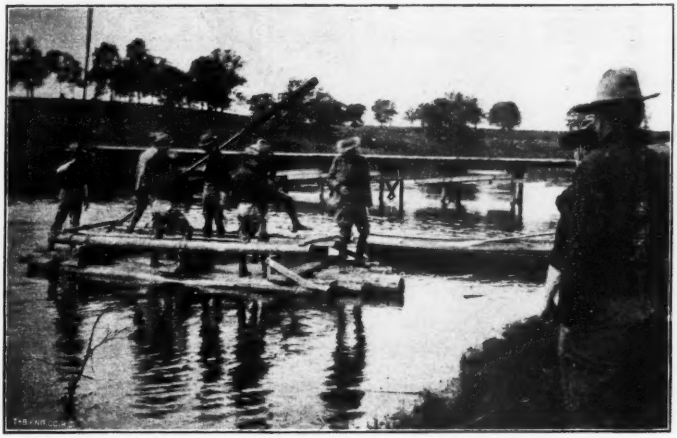
PRACTICE MARCH WITH TROOPS. INSTRUCTIONS FOR THE OBSERVERS.

You are attached to this force as an observer, and expected to render a full report in writing covering your observations.

Accompany the column on its march and upon arrival at the initial point, accompany the ——— platoon ——— company to the rendezvous, and then the combined columns to the place of dismissal. Then proceed to Sherman Hall and upon completion of your report hand it to the umpire.

This report should embody in chronological order all of your observations, including the assembly to the dismissal of the troops, of the execution of the problem by all officers on the following points:

Assembly, formation, time of departure from place of assembly, the initial point, the concentration point; time of arrival at the two latter points, and at the place of dismissal, the time and duration of halts, the rate of march, and errors and irregularities in any of the above with a statement of the correct solution.



LOG RAFT FOR FLOATING BRIDGE.

INSTRUCTIONS FOR TOPOGRAPHICAL OFFICERS. INFANTRY.

You are attached to this force as topographical officer and are required to make a road sketch of the route of the ——— Platoon, ——— Company, Sheet 2, beginning at the old prison and moving in the reverse direction to that prescribed.

The road sketch and report will be made in accordance with instructions for similar work in the Department of Engineering, using any of the methods therein described. Whichever method is used, the sketch and report must be finished in the field.

You are expected to regulate your time of starting and rate of progress so as to arrive at the initial point (the Frenchman's) with finished report and sketch at about the same time as your battalion, and be prepared to guide a platoon back over the route to the rendezvous (old prison) to furnish all necessary information concerning the character of the road, distances, probable rate of marching, defiles, possible ambuscades, etc. The sketches and reports will be turned in to the umpire at the rendezvous.

The combined sketches of the several topographical officers should produce a fair map of the region covered. When this problem has been completed by the entire class the combined sketch of each group will be posted for inspection and comparison.

INSTRUCTIONS FOR TOPOGRAPHICAL OFFICERS. CAVALRY.

You are attached to this force as topographical officer, and are required to make a road sketch of Route No. —— Sheet 8.

The road sketch and report will be made in accordance with instructions for similar work in the Department of Engineering, using any of the methods therein described. Whichever method is used, the sketch and report must be finished in the field.

The time of starting and the rate of progress should be so regulated as to permit the finished sketch and report to be turned in to the umpire at the rendezvous at the time of the arrival of the several platoons at that point (the Frenchman's).

The combined sketches of the several topographical officers should produce a fair map of the region covered. When this problem has been completed by the entire class the combined sketch of each group will be posted for inspection and comparison.

ROUTES FOR ROAD SKETCHES FOR TOPOGRAPHICAL OFFICERS. CAVALRY.

No. 1. From the Frenchman's (E) north to Kickapoo (13) and west to Neils (33).

No. 2. From the Frenchman's (E) west to Kennedy's (G), north to Hoberg's (25), west through (29) to Lowemont (K).



THE BARREL RAFT.

No. 3. From Kennedy's (G), west through (1) to Lowemont (K), south to (24), east through (18) to (16), north to Atchison road at (F).

No. 4. From (18) west to (26), south to Heintzleman's (28), east to Zimmerman's (14), north to Atchison road at (F).

Note: If possible, rate your horses over the measured mile before starting out.

In these exercises a certain number of student officers were assigned as observers. These were attached to the various organizations that had independent work of some kind, and were required to submit a report on the execution of the exercise. These details served two purposes. It gave the students practice in making reports and prepared them for the duties of an umpire. It also gave employment

to a greater number of student officers, which was an important gain when we consider the size of the class and the scarcity of umpires. Each observer was provided with the same data and information given to the officer to whose command he was attached, and the observer had to make the same solution, write the same orders and messages. Instead of sending them he handed them in with his report. He was also required to point out any errors that he observed and tell what he himself would have done. In this manner his was an independent solution, and the exercise was quite as valuable to him as to the officer actually in command. Wherever possible topographical officers were sent with columns and patrols, and these officers were under direction of the Department of Engineering. By this method it was attempted to bring the two Departments of Engineering and Tactics into touch with each other, and to combine the practical work of both in each tactical problem.

The results of the thesis in Security and Information led the department to try the same method in the tactics course. The thesis was to be a final rounding out of the entire course, and the subject selected was one suited to their purpose. At all posts a series of practical exercises in which all troops are to participate is required. Since many of the student class will have to act as staff officers at these posts, it was deemed best to give them some practice in getting up such problems. The following therefore was required:

THESIS.

Organization and Tactics.

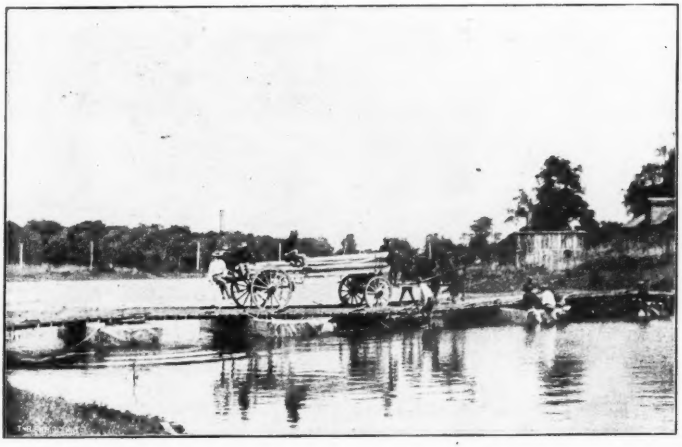
In accordance with Paragraph 25, Regulations and Program of Instruction of the General Service and Staff College, published in G. O. No. 1, A. G. O. 1904, a thesis will be prepared by each student officer and handed in to the instructor Department of Tactics not later than noon, June 10, 1904.

Subject of Thesis.

A series of four practical problems suitable for the progressive tactical instruction of a mixed garrison of the United States army, prepared under the following headings:

1. Map Problem.
2. Terrain Ride.
3. March of Concentration.
4. Exercise on the Terrain with Troops (all arms).

Note: For the purposes of this thesis use the Fort Leavenworth maps and assume a garrison of one battalion of infantry, two troops of cavalry, one battery (light) of field artillery, detachment of hospital corps, and the necessary transportation.



FLOATING BRIDGE, WITH PONTON, BARREL AND LOG RAFT.

In this issue of the CAVALRY JOURNAL three of the theses prepared under this order are published. The first by Captain R. T. Walton, the second by Lieutenant F. E. Buchan, and the third by Lieutenant R. S. Bamberger. To the department the results achieved were highly satisfactory.

The theoretical course in this department was not considered complete without an elementary course in strategy. Little time was left to devote to this branch, and on that account only a very simple schedule could be laid out. It embraced lectures, quizzes and a written examination.

The lectures were on the following subjects and campaigns:

1. General Principles of Strategy.
2. The Novara Campaign in Italy, 1849.
3. The Campaign of Ulm in Germany, 1805.
4. The Campaign of 1796 in Italy.
5. The Vicksburg Campaign in 1863.
6. The Campaign of Koenniggratz in 1866.
7. The Campaign of 1862 in Virginia.
8. The Atlanta Campaign in Georgia, 1863.
9. Massena's Retreat in Portugal, 1811.
10. The Campaign of Metz and Sedan in 1870.
11. The Campaign of Plevna in 1877.
12. The Passage of Rivers in the Theatre of War.

These lectures, the subjects of which were selected by Colonel A. L. Wagner, Adjutant General's Department, were intended to illustrate some of the principles of strategy. The course was an elementary one, and for lack of time had to be so. The method pursued in this elementary study was one that gave good results, and it is now the tendency to make the next year's course in other subjects taught at the College similar to the strategy course.

For the lectures, which were delivered by the instructors, the entire student class (ninety-one officers) were assembled in the lecture room. A printed pamphlet containing a synopsis of the campaign was issued to each student prior to the lecture. A reading of the pamphlet assured a certain familiarity with the campaign, and made the lecture more interesting. The lecture, which lasted about one hour, covered the entire campaign, laying especial stress on the principle or principles of strategy to be illustrated by it.

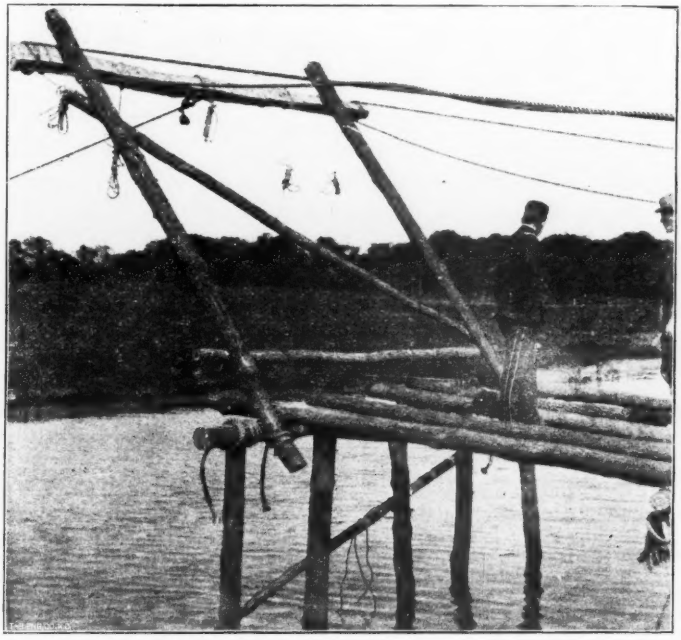
One of these pamphlets is reproduced in the CAVALRY JOURNAL of July 1904 and shows the general characteristics of them all.

After the lecture the different sections into which the student class is divided assembled for recitation on this campaign. Besides the printed pamphlet and the map, each student was given a set of questions on the campaign, answers to these being found in the pamphlet. During the recitations or quizzes these questions were propounded to the students and their answers corrected.

To illustrate these lists of questions the one on the Campaign of Plevna is here reproduced.

QUESTIONS ON THE CAMPAIGN OF PLEVNA, 1877–78.

1. What caused the war of which this campaign was a part?



REES' PILE BRIDGE. FIRST POSITION NEW BAY.

2. What approximately was the strength of the opposing armies?

3. Describe the theatre of operations (exclusive of the Balkans).

4. Describe the Balkans in the theatre of operations.

5. Whence did Russia and Turkey respectively receive their supplies?

6. What was the Russian plan of campaign and what

would have been a better plan if the Turks had not possessed certain advantages?

7. What prevented an early successful ending of the war for the Russians?

8. Into what three periods does Greene divide the campaign (omit dates but give periods in weeks).

9. Why was Plevna such an important factor in the campaign?

10. What position was taken up by the Russians after concentrating and in anticipation of crossing the Danube?

11. How was the Danube crossed by the Russians?

12. What was the Russian plan of operations immediately after crossing the Danube.

13. What was now accomplished by the Russian left wing?

14. Explain in general terms Gourko's maneuvers resulting in the capture of Shipka Pass.

15. Whence came the army of Osman Pasha in its advance on Plevna, and where was it first met by the Russians and with what result?

16. Describe the second attack by the Russians on Plevna (July 30th).

17. What brought the Russian advance to a standstill?

18. What were the positions of the opposing armies about this time?

19. What did the Russians do next?

20. What should the Turks have done at this time; and what did they actually do?

21. With what idea did the Russians attack Lovtcha (September 3d) and extend their lines towards the Esker?

22. When did the investment of Plevna become effective and how was this accomplished?

23. What did Osman Pasha accomplish by holding Plevna, and what did this serve to illustrate?

At the end of the course a written examination was held to determine the relative proficiency of the students on this subject. Three questions were selected from each of the ten campaigns in the course. The standing of the class in this subject was very satisfactory and serves to illustrate the

average marks usually attained by the class. The marks range from seventy per cent. (one student) to ninety-eight per cent. (one student). Forty-two students made more than ninety per cent., and seventy students made more than eighty per cent. This is near the usual marks made throughout the course, and is a splendid showing for the second class of the General Service and Staff College.

Many changes, innovations and improvements will be made in the course for the next class at the school. Furthermore, a new and advanced class will commence their studies. The development of the school under its new start will be watched by all with great interest.

Department of Engineering.

By Captain E. T. Cole, Sixth Infantry.

Practical Work in Surveying.

Each officer did the instrumental work, calculations and plotting of the following surveys:

Traverse with transit, establishing elevations by vertical angles; measurements by stadia. Contoured map of area surveyed.

Traverse with surveyor's compass. Elevations by vertical angles; measurement by chaining. Contoured map of area surveyed.

Plane table survey. Frame work by intersections and boundaries by traversing; elevations with clinometer. Contoured map of area surveyed.

Profile survey with level. Plotting of profile.

Contour survey with level and plot thereof. Area divided into fifty foot squares by transit and ranging out lines.

Triangulation over extended area, including measurement of base line by most careful methods.

Outpost survey with sextant, using method of intersections in front of carefully measured base.

Military Topography.

(*a*) Determine length of pace.

(*b*) Construct working scales.

Road sketch on foot with note-book, compass, and clinometer.

Position sketch with drawing board, box compass, protractor and scale.

Road sketch on foot with sketching case.

Outpost sketch with improvised instruments.

Position sketch with drawing board, range finder, and clinometer.

Fill in details and contours on a section of an enlarged county map to make of it a military map.

Road sketch, mounted, with note book, compass and clinometer.

Road sketch, mounted, with sketching case.

Road sketch, mounted, with choice of instruments.

In all these problems the work to be done was definitely laid out except in the last where credit was given for the amount of work done in the allotted time.

Field Fortifications.

Construction of lying and kneeling trenches.
Construction of standing trench and palisade.
Tactical location of trenches and field works.
Construction of fascine and gabion.
Construction of wire entanglement, high and low.
Construction of abatis.
Construction of revetment of fascines and gabions.
Construction of revetments of sandbags and sod.
Construction of continuous hurdle revetment.
Construction of loopholes on parapet.
Trace and defilade a field work.
Construction of profile of a field work.

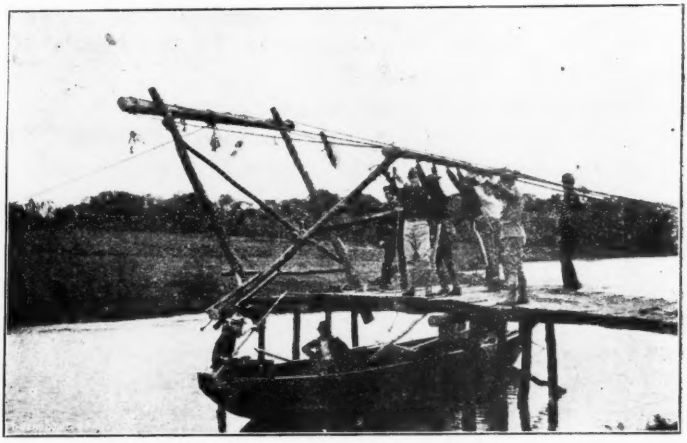
Field Engineering.

Making knots and splices. All of those set forth in manual.

Construction of shears and gin with tackles and slings for barrels and boxes. Construction of canvas ponton and barrel raft.

Bridge building on land and in water with Birago trestle and Rees frame trestle.

Trestle bridge of round timbers.



REES' PILE BRIDGE. PLACING DERRICK FRAME.

Bridge with floating supports, using canvas ponton, barrel raft and log raft.

Ponton bridge with engineer reserve train equipage.

Pile bridge after design of Captain Rees. This bridge can be built with equal facility over dry runs, water, sand or marsh, piles being driven without pile driver or false work by slinging the advance bay from a movable trestle derrick and using this as working platform from which to place and drive piles to support its out-stream end.

Suspension bridge with wire cables 100 feet in clear.

In all above problems all the work was done by student officers. In bridge work, using rough timbers, all cutting,

squaring, shaping, etc., and in general all framing and carpenter work was done by the class. No soldier labor was used in any problem except for delivering supplies to the place where they were to be used. All bridges were tested by crossing heavy loads over them.

As an illustration of how these problems are prepared for the class the full directions for the construction of the pile bridge above mentioned, are here given:

Bridge with pile trestles.

Six sections. Four half days.

The trestles consist each of five vertical piles and are spaced twelve feet six inches c. to c. In each trestle the piles are spaced three feet two inches c. to c. The caps are flattened on top and bottom to a thickness of about six inches and are drift bolted or pinned to top of piles. All trestles are braced by two diagonals spiked to piles. The balks are fourteen feet long and are laid five in each bay at intervals of two feet eight inches c. to c. The outer ones are drift bolted or pinned to the caps and the three inner ones are lashed to hold them in place.

The flooring is made either of three-inch by thirteen foot-poles or of two-inch plank. It is held in place by side rails of poles laid over the outer balks and lashed thereto near the trestle bents and at middle of each bay, or of two-inch by four-inch scantling spiked to the flooring planks. The abutment sills are caps sunk in the ground and firmly staked front and rear. If a shore trestle is needed between the abutment sill and the water, it will consist of a mud-sill, five posts, a cap and two diagonal braces.

Each bay of the bridge is constructed as follows: Build a frame consisting of a cap, the two outer balks, a ledger and a diagonal. Carry it forward and engage the ends of the balks under the previous cap to which they are temporarily lashed. Revolve the frame to its place by hauling out a forestay and then lowering by the backstays, using a derrick frame to take the weight. Lay a temporary flooring of four planks or chess. Set the piles from the outer end of the suspended frame, drive them, and saw them off. Shift the frame to place the cap on the piles and drift bolt or pin

through cap into tops of piles. Lay three more balks and lash them. Floor half the new bay. Brace the trestle with two diagonals spiked to poles. Proceed with next bay in same manner.

PARTIES	DUTIES.	No. of Men.	REMARKS.
1	Prepare caps	4	
2	Tackle and holdfasts	12	3 parties of 4 men each.
3	Abutment and siderails	4	
4	Prepare piles	4	
5	Derrick, balk and frames	12	
6	Frame builders	10	2 parties of 5 men each.
7	Piles and flooring	18	
8	Boat crew and braces	6	
	Total	70	

1. Cap section. Four men. Prepare trestle caps.

Tools: One cross-cut saw, one axe, one adze, one cant-hook, two scratch awls, one chalk line, two augers (one-half inch), one measuring rod (fifteen feet) marked on face at center and at intervals of three feet two inches from center, and on edge at center and at intervals of two feet eight inches, one rule (two feet), one level, one hammer, nails (eight-penny), one square.

Lay cap on skids and chock. Saw to length of fifteen feet. Across ends near top and bottom draw horizontal lines to determine required thickness six inches or tack on short six-inch boards. Snap the chalk line horizontally to determine top cutting lines. Flatten down to these lines with axe and adze. Roll the cap over and flatten other side in same manner. The cap will now be of uniform thickness and flat on top and bottom. On center line of top bore one-half-inch holes vertically at center and at intervals of three feet two inches from center. Mark with chalk, on top, cross lines at two feet eight inch intervals from center for balk.

2. Tackle section. Twelve men, three parties, four each. Four will rig and man upstream backstay, four rig and man downstream backstay, and four rig and man forestay across the stream. Each party rigs its own tackle and sets holdfasts. The backstay holdfasts are set eight feet on either side of axis of bridge and thirty feet back from the abutment sill; each holdfast is a four-inch by five-foot stake

driven three feet in ground and tied back to second stake. Rig a strap of three-fourths-inch rope to hook tackle into. Reave double tackle of three-fourths-inch rope 300 feet long in six-inch blocks, and hook to holdfast and backstay. Backstay is 200 feet of one-inch rope double or 100 feet of one and one-half-inch rope with large eye at end. When a frame is in place, put bight or eye of backstay over end of cap and stand by to take strain when frame is heaved over; then when derrick is set, lower away to place. Stand by to raise and lower as required. For the forestay a similar holdfast is set across the stream, in axis of bridge, fifty feet from water. Rig tackle of 300 feet of three-fourths inch rope in double and single six-inch blocks, and hook to strap (three-fourths-inch) on holdfast and to forestay, which is a one-inch line leading across stream to cap of frame. When frame is adjusted heave it over and stand by to haul it out in place when piles are bored. Each of these three parties will require one axe, one maul, one crowbar, and blocks and ropes as specified. The forestay party will lay the abutment sill on their side. (See abutment section.)

3. Abutment and side-rails. Four men.

Tools: One pick, two shovels, two mauls, one level, one square, lashing and racks sticks, range stakes.

Range out axis of bridge. Dig trench perpendicular to axis of bridge and extending eight feet each side thereof, eighteen inches wide, nine inches deep, bottom level. Lay abutment sill (a cap not bored) in trench; level and square. Stake with eight three-inch by four-foot stakes, four in front and four in rear of sill. Back-fill with earth and tamp hard.

When a bay of the bridge is completely floored lay and spike the side rails of two thicknesses of two-inch by four-inch scantling breaking joints, placing them over the outer lines of balks.

4. Preparing piles. Four men.

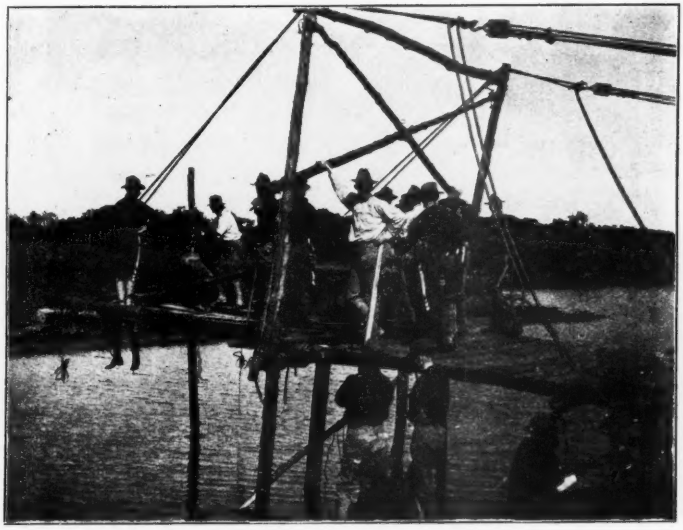
Tools: One cross-cut saw, two axes, one adze, one tape, one cant hook, one drawing knife. Sharpen the small ends of piles to a conical point one foot long. Get depth of water for next bent from boat crew, and cut five piles for that bent to a length equal to the depth of water plus ten feet. The

piles should be four or five inches in diameter at the small ends.

5. Derrick section. Twelve men.

Tools: Two hand saws, two sledges, spikes (six-inch), lashings, measuring rod or tape.

Build frame as follows: Two legs twelve feet six inches by four inches at top, laid parallel thirteen feet eight inches between centers Spike and lash (one-half-inch rope) a



REES' PILE BRIDGE. SETTING PILES.

transom three and one-half inches by fourteen feet eight inches across the legs six inches from top. Spike and lash (one-half-inch rope) diagonals three-inch by sixteen foot from points near transom to points six feet below transom; lash (one-half-inch rope) diagonals at crossing; square lashings. Attach one-half-inch lashings twelve feet long to transom near each leg.

The foot of each leg must be finished off with jaws to embrace the cap of a trestle and revolve on it. Flatten the front and rear sides of the legs for four feet to good bearing surfaces. For each leg bevel to a flat surface two pieces five

feet long and five inches in diameter, making the bevel four feet long. Spike these pieces to the flattened faces of the leg, letting them project twelve inches beyond it. Cut away the inside of these projecting ends so that their clear opening will be nine inches.

Get the first balk frame from the first party of frame builders, the second from the second party, third from first party, and so alternate. When a frame is called for, lay hold facing the stream as follows: Five men behind cap, two men in front of cap lifting balks, three men behind ledger and two men at front ends of balks. Lift together and carry frame to its place on the bridge, lower the front end and rest the ledger on the balk of the previous bay. A frame received from the first party of frame builders lies on the downstream side of the balk of the previous bay; one from the second party lies on the upstream side. Raise the rear end and slide forward to engage the balk under the cap of the previous bay. Fasten by upward and outward turns of lashing around cap. The middle cap-carrier will disengage the forestay and fasten it to the new cap six inches from center by a round turn and two half hitches. The outer cap-carriers will disengage the backstays and loop them over ends of new cap. Then as the forestay is tightened and the backstay slacked off, lift the frame and help heave it over.

Carry the derrick frame forward, legs in advance and set jaws of legs over trestle cap. Lift the transom end to the backstays and lash with the one-half-inch lashings. The derrick frame thus becomes a rocker arm for lowering the balk frame to place. Lay five planks from cap to cap as a temporary flooring of the new bay.

Two of the party remain to watch the derrick and the rest go ashore and prepare three balks by cutting them to a length of fourteen feet. If they are to lie in a frame built by the first party of frame builders, carry them tops foremost; if for a frame of the second party, carry butts foremost. When balks are called for, six men of the party (two to each balk) carry them out, lay them in place and lash the

rear ends to balks and cap of previous bay, making square lashings with one-half-inch rope twenty-eight feet long.

As soon as the flooring has been laid to the new bay, lower the derrick frame and lay it flat on the bridge. Then carry forward a new balk frame and repeat the operations described above.

6. Frame builders. Ten men, two parties of five men each.

Tools for each party: One measuring rod fifteen feet long marked on face at center and at six feet three inch intervals each side of center and on edge at center and at four feet three inch intervals each side of center, four augers (one-half-inch), four sledges (one-half-inch), drift bolts (twelve inches long), spikes (six inches), tape, one cant hook, two crow bars, one maul, two hand saws, one square.

The first party (words in parenthesis apply to second party) lay two six-inch by fifteen-feet skids on ground parallel with stream, and twelve feet apart, bring the ends even, block them up to a level and stake them fast. Mark points on each skid five feet four inches each way from center line and cut shallow notches about three inches wide. On these skids build the frames as follows: Lay two balks butts (tops) toward the river, in notches on skids; cut to a length of fifteen feet, but do not discard a balk three or four inches short; mark points on each balk six feet three inches from its center. Lay a cap, marked side down, over marks near tops (butts) of balks, shift the cap till its outer marks are even with the upstream (downstream) side of the balks; bore vertically and centrally through cap and balk at crossings one-half-inch holes, and drive twelve-inch drift bolts. Bore holes vertically through balk at the other six feet three inch marks. Spike on a ledger three inches by thirteen feet across the balks at a distance of four feet three inches from centers of balks toward the butts (tops). Spike on a diagonal three and one-half inch by fifteen feet from a point on the downstream (upstream) balk near ledger to a point on the upstream (downstream) balk near cap. The ends of ledger and diagonal should be slightly flattened and two spikes used in each end. Be sure that the distance between

the upstream (downstream) sides of the two balks is exactly ten feet eight inches. If greater than this, trim off the upstream (downstream) balk; if less, trim off the downstream (upstream) balk at the end for a distance of three feet.

Attach five lashings (three-fourths-inch rope) twenty-two feet long with eye splice in end to cap at points three inches upstream from drift bolt holes. Pass each around the cap, reave end through eye, haul taut in place, coil and stop. Attach two lashings of one-inch rope twenty-five feet long to the two balks just outside the drift bolt holes in the butts (tops) by throwing a clove hitch at the middle point of the lashing and slipping it over end of balk to proper place leaving two free ends. When a frame is finished lay it to one side without turning and build another.

7. Piles and flooring. Eighteen men.

This party is subdivided according to the work in hand as follows:

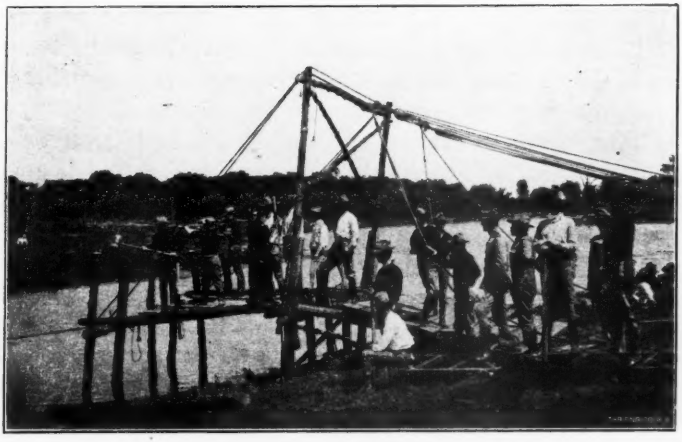
No. of Men.	For Pile Work.	For Flooring.
8	Carriers	Carriers.
5	Mauls and augers	Two layers, three sawyers.
5	Saws and hammers	Spikers.

The piles are carried out two at a time, four men to a pile, except the last which is carried by four of the saw and hammer party. Each pair of carriers provides a carrying bar, three feet six inches long, with a short lashing of one-half-inch rope attached near the middle. Lay the bar across the top of the pile and pass the lashing under the pile and back to the bar where a few turns secures it.

When piles are called for carry forward two piles, the second and fourth, points foremost, and lay them across the cap over the second and fourth auger holes. Disengage the bars and launch the pile forward till it overbalances. The front carriers pass the lashing on the cap over the pile and down and out around the cap. The rear carriers let go, one front carrier holds the lashing and the other controls the pile to a vertical position. When plumb, slack the lashing suddenly and drop the pile to the bottom, then tighten the lashing and

draw the pile to its place against the cap. When adjusted lash both piles to the cap with square lashings.

While these two piles are being driven the carriers bring up the first and fifth piles and the saw and hammer party brings the middle pile. When the frame has been raised after driving the first two piles, these three are set in place and lashed in like manner as the first two, the saw and hammer party performing the duties of carriers for the middle pile. The carriers lend their weight on the frame to assist in sinking the piles.



REES' PILE BRIDGE. DRIVING PILES.

When piles are set and lashed the backstays are slackened and the maul men drive the piles, two to each pile when practicable. If the piles drive hard, increase the weight on the frame and at intervals give it a swaying motion.

When the piles are driven the maul men retire and provide themselves with one-half-inch augers, and the saw section takes their place. The frame, if not already so, is adjusted to a convenient height and the piles are marked and sawed. The first and fifth sawyers are provided with measuring rods marked or cut to the height of piles above water as tested on the preceding bent. The third (middle) sawyer has a straight edge of one-inch board fourteen feet long.

The second and fourth sawyers have hammers and nails. The straight edge is tacked on against the outside of the piles at a height determined by the two measuring rods, the nails being only half driven so that they can be readily withdrawn. Each sawyer saws his pile off level, resting the saw on the straight edge. Knock off the straight edge, carry the sawed off ends ashore and get drifts, bolts and sledge hammers.

The auger section returns and each bores a one half-inch hole in the axis of his pile six inches deep. After laying aside their tools they remain to assist in setting the cap and engaging the drift bolts in the piles.

The hammer section, each with drift bolt one-half inch by twelve inches, and sledge hammer, drive drift bolts through holes in cap till the points project one inch. Then the frame lashings are cast off and the frame is raised and hauled forward by the forestay till the cap is over the piles. As it is lowered in place the auger men guide the points of the drift bolts into the holes in the piles and the bolts are then driven home.

The rear end of the balk frame is then adjusted in position, augers Nos. 1 and 3 bore the cap, and hammers Nos. 1 and 5 drive bolts through balk and cap.

The pile section then retires till the balks of the new bay are laid and lashed, when they lay the flooring to the middle of the new bay.

The carriers take from the pile each one plank in right hand at the balance, front end raised and rear end trailing, and advance in single file, keeping to the right, to the head of the bridge, where they swing the plank to the left and hand it in a horizontal position to the floor layers, then retire quickly, keeping to the right, and bring another plank.

The floor layers stand, one on the first and second balks and one on the fourth and fifth balks, take the planks from the carriers and lay them in place, spacing them about one-fourth inch. They will be assisted by two of the sawyers, who stand on the ends of the plank last laid and hold a piece of wood or a spike as a separator for each new plank. They

also see that the ends of the planks are kept even on the proper line.

If the planks are uneven in length the upstream ends are kept even, and after spiking the downstream ends are sawed even by the sawyers.

When the planks are laid the spikers drive spikes as follows: Nos. 1, 3 and 5 drive spikes into the corresponding balks through the near edge of each plank. Nos. 2 and 4 drive spikes into the corresponding balks through the far edge of each plank. They take care not to displace the planks while spiking them. Nos. 1 and 5 should keep in advance of the others, who wait till 1 and 5 have driven their spikes in a plank before starting their own.

8. Boat crew and braces. Six men.

Material: One ponton with oars, boat hooks, painters, and lashings; braces three and one-half to four inches by fifteen feet, two hand axes, one sledge, spikes (six inches), one sounding rod (fifteen feet) marked to feet, one hand saw.

As soon as the position of one bent is determined, take soundings for the next bent, twelve feet six inches from the last, and give the sounding to the section preparing piles.

As soon as a bent is completed, spike on two diagonals, one inside and one outside.

Trim the piles and flatten the braces to a good bearing, and use two spikes in outer piles and one at interior piles. Take care that the tops of the diagonals do not interfere with the jaws of the derrick frame. It is better not to brace a bent until the derrick has been removed from its cap.

The shore trestles, one on each bank, are erected by the pile and floor section. They are similar to the pile bents, but are constructed from the shore and not from a suspended frame.

If a pile bent when constructed is found to be out of plumb or out in line the boat crew will, before attaching the diagonals, heave it plumb or in line by means of lines leading obliquely to the nearest shore. It should be sprung so as to correct twice the error. Then when the diagonals are fastened it will settle back to its proper place.

All who are not actually engaged in work on the bridge will remain on shore and have their tools and material ready for the next duty. The several working parties should keep together and move as a body without straggling. One member of each working party will be designated as its chief. He sees that his party is supplied with the necessary tools and material for each duty and that it moves to and from its work promptly. When a united effort or a simultaneous movement is required he gives the word.

If the instructions are accurately followed the work will proceed rapidly and in an orderly manner. If any one party disregards instructions there will result confusion and delay for all, and possibly danger for some.

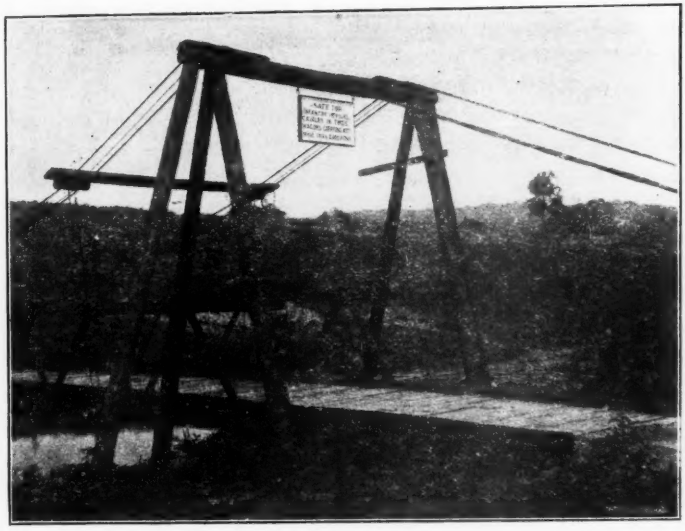
THE DEPARTMENT OF LAW AT THE INFANTRY AND CAVALRY SCHOOL AND STAFF COLLEGE.

By Major D. H. BOUGHTON, Eleventh Cavalry, LL. B., Instructor.

It has been said that law is the pride of the human intellect and the collected wisdom of ages, combining the principles of original justice with the boundless varieties of human concerns.

The remark is often heard that we have too much law in the army. Generally no reason is given for this conclusion, but the presumption is that the proverbial "law's delay" is interfering in some way with the customary march of military affairs. Perhaps too much restriction is being thrown around the exercise of powers that from their nature are more or less unrestrained, more or less arbitrary, a not unnatural conclusion, for there are times when the military power must throw aside all the usual and customary restraints and be guided solely by the great law of "necessity." Ordinarily, however, any power, be it military or otherwise, is most effective when judicially controlled by legislative enactment or guided by precedent, the possibility of arbitrary or tyrannical action being removed as far as

possible. The very presence on our statute books of remedial measures is but the evidence of the previous existence of evils which said measures were intended to correct. So when we find in our army regulations that "Military authority will be exercised with firmness, kindness and justice," "Punishments must conform to law and follow offenses as promptly as circumstances will permit," and "Superiors are



SUSPENSION BRIDGE TOWER.

forbidden to injure those under their authority by tyrannical or capricious conduct, or by abusive language," we must conclude that a time has been when caprice and tyranny entered into the exercise of military power, and that the object of the prohibition is to guard against a possible recurrence of this condition. Otherwise the reason for its existence is wanting.

Broadly, the object of law is to protect rights and redress wrongs. The great mass of people of this country fear the military power. And not wholly without reason, for history is full of instances of its unjust excesses and usurpations. The military power from its very nature is liable to be arbi-

trary and prone to take matters into its own hands. Officers accustomed to command and to instant obedience are impatient of restraint or opposition and apt to disregard or override the rights of individuals. Especially is this true during emergencies when the military is called upon to aid in restoring order. In these cases a knowledge of the law and of the rights of individuals and of communities will often prevent those errors and excesses which go far towards rendering the army obnoxious to the people. Moreover the very study of law, while it makes known the reciprocal rights and duties of individuals, also inculcates a due regard for the rights of others and would be justified on this if on no other grounds. Every citizen, soldier or otherwise, and particularly those to whom powers are entrusted, should understand not only his duties to his government but what he owes to his fellow-man as well.

Sometimes, when it is said that we have too much law in the army, reference is had to the application of the "rules of evidence" to the procedure of courts-martial whereby the members are guided to their conclusions by established rules and not permitted to render arbitrary judgments. But when it is remembered that these same rules of evidence are the result of a thousand years of judicial experience the criticism ceases to have much weight. Moreover, is there any reason why a tribunal of military men should be permitted to deduce presumptions of fact by methods differing from those which the experience of the wisest jurists of centuries has shown to be the best?

Even our military law, brief as it is, is either imperfectly understood or carelessly administered. One has to but read the current reviews of court-martial cases to be surprised at the almost numberless errors, the ignorance of law, and the miscarriage of justice evidenced by the proceedings. It is unjust to our officers to assume that these errors result solely from carelessness. The regard for duty in our service is too high to warrant this assumption. They must then, be charged to an imperfect knowledge of the law, a condition readily susceptible of improvement by the application of the proper remedy.

The history of our country shows that the military has played no unimportant part in its political concerns. True, it seems to stand apart and to hold no certain place in the administration of governmental affairs. Nevertheless it is closely woven into the fabric of our constitutional and institutional history, and plays its part as well as the other elements that enter our system of government. Historically, of course, the military of to-day is an inheritance bequeathed us by former ages, but like every other institution coming to us from antiquity, it has gradually changed to meet the demands of a progressive civilization. From an enemy of human liberty it has come to be the upholder of personal freedom and the guaranty of individual rights; from an engine for forging the chains of slavery it has been transformed into an effective means for striking the shackles from a subject race. Armies have always been potent instruments in the hands of a nation's executive, and have universally reflected the nature of the government they were called upon to support. In early English history, for example, when the king combined all the functions of government in his own person, the military was an agent of tyranny, existing and acting under the sole will of an autocratic ruler. As such it could not be regarded by the great mass of people other than with a feeling of fear and hatred, a feeling that has colored all our military institutions of to-day and still finds expression in traditions that are opposed to a standing army. But the military has changed with the evolution of the science of government and the progress of civilization, and is to-day the bulwark of the civil power when all other safeguards have been swept away. This change, like those that always mark the progress of politics, has been slow and gradual, but at the same time so closely connected with the latter that to fully understand the attributes and office of the military, a knowledge of our political institutions and of their development is necessary.

The army as an integral part of the general scheme of human government must share in the progress common to all the walks of life, and laws in the interest of the individual soldier or civilian are but the outward evidence of the con-

tinued advancement of the human race. In a greater individuality alone is a greater progress possible. But this greater individuality must be consistent with the requirements of an organized society where the rights of all are paramount to those of the individual. Liberty and not license is a principle as applicable to the army as it is to any other profession or community of individuals. Education develops individuality, but by an observance of the law is liberty maintained.

Again, the duties that fall to the lot of army officers are so varied that the latter are often required to act upon legal questions that to the civilian seem wholly outside the military profession. Our international relations with their corresponding complications are increasing, and in our foreign possessions army officers are frequently detailed to positions involving a knowledge of administrative and legal affairs. In the Philippine Islands, for instance, during the last six years the service of officers has embraced practically all the positions involved in the administration of government. In addition to purely military matters they have been called upon to establish civil government, construct codes, govern provinces, administer justice, and in short carry on all the usual functions of government. The successful accomplishment of these things requires not only a high order of ability but an ample knowledge of the laws, customs and institutions of our country.

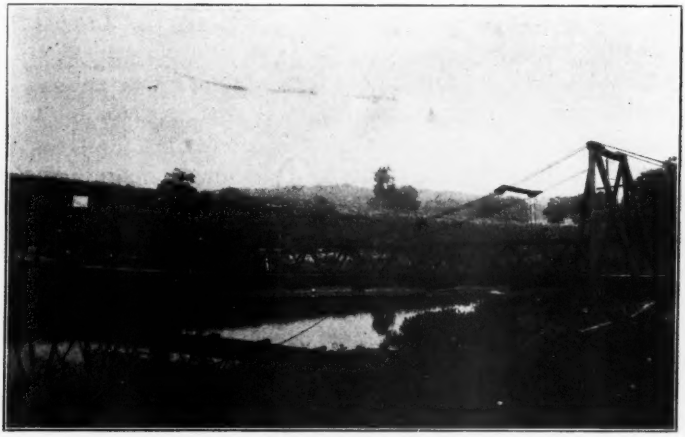
A consideration of the foregoing and of kindred matters has led the authorities to believe that the study of law in the army should be extended and placed on a broader basis. It is thought that a thorough knowledge of those branches usually taught, namely, military and international law, cannot be acquired without an understanding of the elementary principles lying at the foundation of the science itself. For this reason, notwithstanding the limited time, a study of "The Elements of Law" has been added to the course at this school. In addition and for obvious reasons, the study of criminal law and of the laws of evidence has been enlarged, and, recognizing the value of practical work, exercises in moot courts have been added. The study of text books on

military and international law has been omitted for the reason that these subjects are taught in the garrison schools. At the same time it is intended that the work of the moot courts and the preparation of these will add to the student's knowledge of these two subjects.

The course as outlined for the coming year is as follows:

INFANTRY AND CAVALRY SCHOOL.

1. Elements of Law, wherein the student will become familiar with legal phraseology, determine the province of



SUSPENSION BRIDGE.

military and martial law in the general scheme of jurisprudence, and acquire some knowledge of the law of persons and property.

2. Criminal Law, with special reference to military tribunals.

3. Evidence, the rules of which guide tribunals to just conclusions.

4. Moot Courts, exemplifying the procedure and practice of military tribunals (including military commissions and provost courts), the preparation of legal forms, etc.

STAFF COLLEGE.

1. Constitutional Law, emphasizing questions liable to come within the purview of staff officers of the army.

2. Martial Law and Military Government, the course concluding with a graduating thesis on some pertinent subject assigned by the Department of Law.

In regard to the method of instruction it has been thought advisable to adopt the quiz system in connection with assigned lessons from text books, lectures, and the consultation of leading cases. This is more in consonance with modern collegiate education. The present method of reciting requires the student to commit to memory page after page of the text book, which he does by temporarily photographing the same on his mind, with little distinction between the important and less important features. The result is that as soon as the subject is laid aside the whole picture gradually fades from his mind without even the lights and shadows remaining.

With the quiz system the instructor is able not only to determine the intelligence and knowledge of the student, but can bring out and emphasize the principles which the student should and can carry in his mind, and with the aid of which he can solve all similar questions presented for solution.

The assistant instructors for the coming year are Captain Charles Crawford, Twentieth Infantry; Captain H. O. Williams, Fifth Infantry, and Captain Herbert A. White, Eleventh Cavalry.

These officers are all students of the law, Captains Crawford and Williams having been instructors during the previous year, and Captain White being a graduate of the Columbian Law School of Washington, D. C., with the degree of LL. B.

Department of Military Sanitation and Hygiene.

By Lieutenant Colonel John Van R. Hoff, D. S. G., Instructor.

The course in Military Hygiene, "the care of troops," during the session of 1903–04, consisted in recitation from a text book ("Notes on Military Hygiene for Line Officers"—Woodhull), and lectures elaborating and supplementing the book. Each section of the class devoted twenty hours to recitations in the section rooms, and the entire class attended seven lectures in the lecture room; the course ending with a written examination, to which six hours were devoted.

The subjects of the text book are selection of soldiers, military clothing, food, habitations, camps and marches, sewers and waste, water, preventable diseases, care of troops in the field, and sanitary inspection, covering in all 224 pages, an average of eleven pages to each lesson.

The subjects of the lectures were general observations, recruiting, physical training, hygiene of troop ships, special hygiene of tropic and arctic regions, water and preventable diseases.

The examination questions were as follows:

1. What is meant by Military Hygiene and Sanitation?
   Importance to an army.
   Responsibility for execution.
   Statistics of non-effectiveness from illness and injury in armies.
2. What do regulations require in selecting soldiers?
   Table of physical proportions.
   Summary of general qualifications.
   Enlistment of minors. Some results in different armies.
   Considerations in recruitment for war.
3. State advantages and disadvantages in military clothing of cotton, linen, wool, color.
   Discuss military footwear.
   Waterproofing methods and advantages from hygienic and military standpoints.
4. How is food classified?
   Characteristics and functions of the different classes.

Kind, amount and food classification of the articles of the several official rations.

Necessity for variety in food, with illustrations.

5. What should be considered in determining location of military habitations?

Permanent.

Temporary.

Preparation of site.

Dimensions of squad room.

Number of occupants.

How may habitable space in ordinary dwellings be quickly calculated?

In habitations, what causes affect the health of soldiers and what is the remedy?

6. What methods of disposal of waste are used in army posts?

Describe them.

7. What are the various sources of water supply for a command?

Amount required.

Character determined off-hand.

Dangers from bad waters.

Methods of purification.

Nitrification.

8. Name some of the preventable diseases which most affect armies.

State what you would do to control their spread in your command.

9. Define sepsis, infection, and state how they are controlled.

10. What orders relating to sanitation would you give your men, recently recruited and about entering upon a campaign?

DIRECTIONS.

1. Do not copy the question, but prefix its number to the answer.
2. Number each page and sign each answer with initials.
3. Write the following certificate below the answer to the last question and sign it officially.

"I hereby certify that during this examination I have neither given nor received assistance therein."

Beside the instructor, four medical officers are on duty as assistant instructors in this department (additional to their regular work at the post).

In the development of the course in Military Sanitation and Hygiene the primary object is to convey to the student officer a general idea of the scientific care of troops. It would be impracticable to here teach all that is known of this important subject, but the aim is to bring to the attention of our line officers the reasons for the things which daily experience teaches them are necessary to be done in order to preserve the health, and consequently the efficiency of soldiers.

We do not expect to make all line officers expert military sanitarians, for such implies antecedent knowledge of the fundamental facts of physics, chemistry, anatomy, physiology, bacteriology, mechanics, etc., which comparatively few of them possess, but we do believe that we can sufficiently interest them in the subject so that they will seek to thoroughly inform themselves in the theory and practice of recruiting, a knowledge of which is absolutely essential to an efficient army (and which knowledge we have no reason to believe is wide spread), alimentation, clothing, cleanliness and other important subjects outlined in the course.

With the introduction of military hygiene into the garrison schools where the elements of sanitation will hereafter be taught, the curriculum in the Infantry and Cavalry School will ultimately be placed on a university basis, and recitations eliminated. The course should then consist of lectures, practical exercises, demonstrations, the observation and description of sanitary appliances and collateral reading, to conclude with a comprehensive examination.

PRACTICAL PROBLEMS FOR ORDINARY GARRISONS.

THE following sets of problems were prepared by the officers named in pursuance to notice of the Department of Tactics at the General Service and Staff College:

THESIS: ORGANIZATION AND TACTICS.

In accordance with Paragraph 25, Regulations and Program of Instruction of the General Service and Staff College, published in G. O. No. 1, A. G. O. 1904, a thesis will be prepared by each student officer and handed in to the instructor, Department of Tactics, not later than noon, June 10, 1904.

Subject of thesis: A series of four practical problems suitable for the progressive tactical instruction of a mixed garrison of the U. S. army, prepared under the following headings:

1. Map Problem.
2. Terrain Ride.
3. March of Concentration.
4. Exercise on the Terrain with Troops (all arms).

Note: For purposes of this thesis use the Fort Leavenworth maps, and assume a garrison of one battalion of infantry, two troops of cavalry, one battery (light) of field artillery, detachment of the hospital corps, and the necessary transportation.

FIRST SET.

BY CAPTAIN R. FOSTER WALTON, SIXTH U. S. INFANTRY.

No. 1. Map Problem.

Circular that would be issued prior to solving Problem No. 1:

Circular No. 1. FORT LEAVENWORTH, KANSAS, June —, 1904.

The officers of the post school will be assembled at Pope Hall at 1:30 P. M., June —, 1904, to solve a "tactical exercise on the map in rear guard and advance guard."

Officers will be required to have complete knowledge of the principles involved, as laid down in Wagner's "Security and Information."

Each officer will bring to the section room, pencils, one-fourth quire legal cap paper, dividers and eraser.

The instructors of the post school will assist the senior instructor in executing the details of the exercise.

The senior instructor will give a short lecture on the exercise at a later date. In this lecture he will give the solution that the majority of instructors decide is the best solution, after considering all the papers.

By order of Colonel Duncan: W. L. SIMPSON,
Captain and Adjutant Sixth Infantry, Adjutant.

FORT LEAVENWORTH, KANSAS, June —, 1904.

PROBLEM NO. 1.

"THREE ARMS COMBINED." TROOPS IMAGINARY.
TACTICAL EXERCISES ON THE MAP IN REAR GUARD HOLDING AN ADVANCE GUARD.

General Idea.

A force (Brown) covered by a rear guard is retreating from Atchison via Frenchman's to Fort Leavenworth, over the Atchison Pike. It is followed by a force (Blue).

Special Idea (Brown).

The advance guard (Blue) overtakes the rear guard (Brown) while the reserve of the rear guard is on road at the Frenchman's.

The rear guard is ordered to delay the pursuing advance guard as long as possible, in order to enable Brown's main column to take up a position on Government Hill.

FORCES ON EACH SIDE.

Brown—Rear Guard.	*Blue—Advance Guard.*
Infantry, one battalion, 400 men.	Infantry, two battalions, 800 men.
Cavalry, two troops, 200 men.	Cavalry, two troops, 200 men.
Artillery, one battery, six guns.	Artillery, one battery, F, six guns.
Detachment Hospital Corps, four officers, three noncommissioned officers and eleven privates.	Detachment Hospital Corps, five officers, four noncommissioned officers, and fourteen privates.
Four wagons, light baggage, one ambulance.	Eight wagons, light baggage, three ambulances.

Required:

(*a*) The disposition of the rear guard when the reserve is on the road at the Frenchman's, drawn to scale where practicable.

(*b*) What dispositions will you make to carry out your orders to delay the pursuing advance guard.

(*c*) Assume what you would consider the best position to occupy and draw on the map the dispositions you would make to defend the position chosen.

No. 2. Terrain Ride.

Post Circular that would be issued prior to Exercise No. 2.

Circular, No. 2. FORT LEAVENWORTH, KANSAS, June —, 1904.

The officers of the post school will report to the senior instructor of the post school, at headquarters building tomorrow at 1:30 P. M. Tactical exercise to be executed: "Terrain Ride," "Outposts."

The officers will report to Major Murray, Fourth Cavalry, who will assign them mounts for the purpose.

The equipment of officers will be regular field equipment. Each officer will carry in addition to equipment, pencils, one-fourth quire legal cap paper and dividers.

Officers will be required to have complete knowledge of the principles involved, as laid down in Wagner's "Security and Information."

The instructors of the post school will assist the senior instructor in executing the details of the exercise.

By order of Colonel Duncan:

W. L. SIMPSON,
Captain and Adjutant Sixth Infantry, Adjutant.

FORT LEAVENWORTH, KANSAS, June —, 1904.

PROBLEM NO. 2.

TERRAIN RIDE. OUTPOSTS. TROOPS IMAGINARY.

General Idea.

A Blue force is reported approaching Fort Leavenworth from the north and a Brown force from the south.

Special Idea (*Brown*).

The Brown advance guard is passing through Leavenworth. The point on reaching the south end of Grant Avenue signals: "Enemy in sight." The advance guard commander rides forward and discovers that the enemy has a line of outposts extending from South Merritt Hill on the west to Farragut Avenue on the east.

The detachment commander orders the advance guard commander to establish a line of outposts with his advance guard on the military reservation, facing the enemy, to protect the main body which will bivouac in Leavenworth.

The main body consists of two regiments of infantry, one squadron of cavalry, one battery of field artillery, and the necessary hospital equipment and baggage train of this force.

The advance guard consists of one battalion of infantry, two troops of cavalry, one battery of field artillery, necessary light baggage and hospital troops for this force.

Required:

(*a*) Write the order that the advance guard commander would issue for formation of the outposts.

(*b*) Show by diagram on maps where you would place the outposts for the day position.

(*c*) Study map in connection with the ground and be prepared to show the instructor just where you would place each sentinel or vedette, picket support or supports, and cossack posts; what patrols you would have; where the reserve would be posted, and what you would do in case of an attack; composition of all parts of outposts.

The instructor will allow two hours for this part of problem, when he will go along lines of observation and question you on the above elements.

No. 2. Sheet No. 2.

Troops Imaginary. Terrain Ride. Outposts.

The commander of the main force decides to hold this position for the night. One of your patrols has captured a Blue patrol of two men.

Required:

(*a*) Your dispositions for a night position for the outpost line, in detail as required for the day position (Sheet 1).

(*b*) Write the message you would send to the commander of the main body after questioning prisoners.

(*c*) What would you do with the prisoners.

Note: Time allowed, one hour. The instructor will pass along the line of observation and question you in regard to the same elements as were given on the day position.

All written solutions will be turned over to the senior instructor of the post school after the completion of the exercise; sheets and maps to be turned in at the same time.

No. 3. P actice March.

Post circular that would be issued prior to solving problem No. 3:

Circular, No. 3. } FORT LEAVENWORTH, KANSAS, June —, 1904.

The following named officers of the post school will report to the senior instructor of the post school at 7:45 A. M. to-morrow for a march of concentration.

The regular field equipment and service uniform will be required. Each officer will be provided with note book and pencil. The cavalry and artillery officers will be mounted.

First Battalion Sixth Infantry, Troops E and F Fourth Cavalry, and Twenty-ninth Battery Field Artillery, will be reported to the senior instructor of the post school at 8:00 A. M. to-morrow. The troops will wear the service uniform and equipment for light marching order. Each man will carry a cooked lunch and a canteen of boiled water or coffee.

The assistant instructors will act as umpires, as directed by senior instructor. They will make such reports and perform such duties as he may require.

By order of Colonel Duncan, W. L. SIMPSON,
Captain and Adjutant Sixth Infantry, Adjutant.

FORT LEAVENWORTH, KANSAS, June —, 1904.

PROBLEM NO. 3. SHEET NO. 1.

TACTICAL EXERCISE WITH TROOPS. MARCH OF CONCENTRATION. ALL ARMS.

Instructions for the Detachment Commander.

You have the First Battalion Sixth Infantry, E and F Troops, Fourth Cavalry, and the Twenty-ninth Battery, Field Artillery; nine officers of infantry, five officers of cavalry, and three officers of artillery.

Required:

(*a*) Assume command of this force and assign two officers to each company, two officers to each troop, and three officers to the battery of artillery.

The extra officer of infantry and cavalry will be assigned to their respective arms as battalion and squadron adjutants.

(*b*) After forming the detachment march it via the cavalry drill ground, Atchison Pike to Kennedy's.

(*c*) At this point the platoons separate and each marches under command of an officer over its designated route to the rendezvous at the northeast corner of West End Parade.

(*d*) The exact time all platoons are to concentrate at the rendezvous will be announced to the platoon commanders by you, and so fixed that the one having the longest route will have thirty minutes rest at Kennedy's.

(*e*) After concentration at the West End Parade, a rest of ten minutes will be allowed, after which the troops will be formed and marched to their respective company, troop or battery quarters by the first sergeants and dismissed.

(*f*) Different hours of concentration on West End Parade will be assigned to different arms of the service.

(*g*) Render a report and require your adjutant to render a report, showing hour of assembly, hour of departure, hour of arrival at Kennedy's, and hour designated for the concentration of troops. The march will be made in accordance with the Infantry and Cavalry Drill Regulations.

(*h*) You will turn over the command to platoon commanders at Kennedy's and return by shortest route to northeast corner of West End Parade, where troops will be dismissed.

(*i*) The baggage and hospital detachment will be conducted back to the rendezvous by yourself, accompanied by your adjutant and sergeant major.

(*k*) Distance and time required by each to march over each route should be calculated before starting, and calculations or time handed umpire before starting, so that the calculation may be compared with each actual march made.

March of Concentration—with Troops. Sheet No. 2.

Routes for infantry marches and instructions for platoon commanders.

First Platoon, Co. A.—From Kennedy's 27–7–41–43 Hancock Avenue to northeast corner West End Parade.

Second Platoon, Co. A.—From Kennedy's 27–7–5–E–D–43 Hancock Avenue to northeast corner West End Parade.

First Platoon, Co. B.—From Kennedy's 25–21–17–7–3–1 Penn Lake to northeast corner West End Parade.

Second Platoon, Co. B.—From Kennedy's 25–17–7–3–1 over Sheridan's Drive to Hancock Avenue, Hancock Avenue to northeast corner West End Parade.

First Platoon, Co. C.—From Kennedy's F–E–D Hancock Avenue to northeast corner West End Parade.

Second Platoon, Co. C.—From Kennedy's F–16–14–8–2–C Garden Road, Hancock Avenue to northeast corner West End Parade.

First Platoon, Co. D.—From Kennedy's F–16–14–8–2–M Grant Avenue, Pope Avenue to northeast corner West End Parade.

Second Platoon, Co. D.—From Kennedy's F–16–14–8–2–M Grant Avenue, McPherson Avenue to northeast corner West End Parade.

Marches will be conducted in accordance with paragraphs 657 and 658 Drill Regulations, modified as circumstances may require, and consider start from Kennedy's an original start.

Render a report embodying in chronological order all that happens on march from assembly on West End Parade to dismissal of troops at the same point.

Include in report, rate of march, halts, time of departure from Kennedy's, and time of arrival at West End Parade. Turn in your report to the senior instructor of Post School. Your platoon is enclosed in brackets of red ink.

The senior officer will take command of the company until arrival at Kennedy's.

March of Concentration—with Troops. Sheet No. 3.

Routes for cavalry marches.

Instructions for Commanders of Cavalry.

The senior officer of cavalry will form the troops in a squadron of two troops and command the cavalry until arrival at Kennedy's. Each troop will be formed into two platoons.

Routes for cavalry.

First Platoon, E Troop.—From Kennedy's H–8–J–29–39–25–21–17–7–41–1 Penn Lake, McPherson Avenue to northeast corner West End Parade.

Second Platoon, E Troop.—From Kennedy's H–I–J–29–31–15–7–41–1 Penn Lake, McPherson Avenue to northeast corner West End Parade.

First Platoon, F Troop.—From Kennedy's H–I–J–K–35–33–31–37–39–25–G–E–D Hancock Avenue to northeast corner West End Parade.

Second Platoon, E Troop.—From Kennedy's H–I–J–29–25–27–7–5–E–43 Hancock Avenue to northeast corner West End Parade.

Marches will be conducted in accordance with paragraphs 981–982 Cavalry Drill Regulations, modified as circumstances may require, and consider start from Kennedy's an original start.

Render a report embodying in chronological order all that happens on the march from assembly on West End Parade to dismissal of troops at same point.

Include in report, rate of march, halts, time of departure from Kennedy's, and time of arrival at West End Parade.

Turn in your report to the senior instructor of the Post School.

Your platoon is enclosed in brackets of red ink.

The senior officer of the troop will take command of the troop until arrival at Kennedy's. The junior lieutenant will act as adjutant and make the same report as required of the senior officer of cavalry and will accompany his platoon back to place of rendezvous.

March of Concentration—with Troops. Sheet No. 4.

Routes for artillery marches and instructions for officers of artillery.

The battery will be divided into three platoons by the senior artillery officer.

Routes for artillery:

First Platoon, Twenty-ninth Battery.—From Kennedy's H–1–22–24–20–15–16–F–E–43 Hancock Avenue to northeast corner West End Parade.

Second Platoon, Twenty-ninth Battery.—From Kennedy's H–I–22–26–18–16–14–8–2–C Hancock Avenue to northeast corner West End Parade.

Third Platoon, Twenty-ninth Battery.—From Kennedy's H–I–22–28–14–8–2–C Hancock Avenue to northeast corner West End Parade.

Marches will be conducted as required by paragraph 1054 Artillery Drill Regulations, modified so as to have same rate as is usually taken by cavalry in so far as circumstances will permit; consider start at Kennedy's an original start

Render a report embodying in chronological order all that happens on the march from assembly on West End Parade to dismissal of troops at same point.

Include in report, rate of march, halts, time of departure from Kennedy's and time of arrival at Kennedy's, and time of arrival at West End Parade.

Turn in your report to the senior instructor of the post school.

Your platoon is enclosed in brackets of red ink.

The senior officer of artillery will take command of battery until arrival at Kennedy's.

NO. 4. EXERCISE WITH TROOPS.

Post Circular that would be issued prior to Exercise No. 4:

Circular, No. 4. } FORT LEAVENWORTH, KANSAS, June —, 1904.

Tactical exercise to be executed by the following named troops and officers of the post school:

EXERCISE.

"Attack and defense of a position."
Troops, First Battalion Sixth United States Infantry.
Troops E and F Fourth United States Cavalry.
Twenty-ninth Battery Field Artillery.

Officers will be assigned to the various commands by the senior instructor of the post school.

The officers of post school will report to the senior instructor of the post school, who will give them detailed instructions as to what will be required of them.

The above named troops will comply with any orders received that may be given by school officers, in compliance with this circular.

By order of Colonel Duncan, W. L. SIMPSON,
Captain and Adjutant Sixth Infantry, Adjutant.

FORT LEAVENWORTH, KANSAS, June —, 1904.

Captain Poore, Sixth Infantry, will carry out the following problem:

PROBLEM NO. 4.

TACTICAL EXERCISE WITH TROOPS. ATTACK AND DEFENSE OF A POSITION.

General Idea.

A Brown force is guarding the Leavenworth Water Works. A Blue force is advancing from the north to capture and destroy the Leavenworth Water Works.

Special Idea (Blue).

The Blue force consists of A and B Companies, Sixth Infantry, A Troop Fourth Cavalry, four guns Twenty-eighth Battery Field Artillery, and such detachment hospital corps as may be necessary. No baggage wagons will be needed.

Required:

(*a*) You will have your troops formed on the West End Parade at 9:00 A. M. to-morrow.

(*b*) You will attack the Brown force defending the Leavenworth Water Works.

(*c*) Your troops will wear blue shirts, service trousers, and will have the regular field equipment for light marching order. Each man will be provided with 100 rounds blank ammunition, and each gun with twenty rounds of blank ammunition.

(*d*) The rules for field exercises in minor tactics will be observed.

(*e*) You will look over the ground and write out the order you intend to issue for the attack. Hand in the order to the senior umpire.

(*f*) All officers will be assembled after the exercise for a discussion of it by the senior umpire.

Problems will not be discussed with opponents before solution.

FORT LEAVENWORTH, KANSAS, June —, 1904.

Captain Bolles, Sixth Infantry, will carry out the following problem:

TACTICAL EXERCISE WITH TROOPS. ATTACK AND DEFENSE OF A POSITION.

General Idea.

A Brown force is guarding the Leavenworth Water Works. A Blue force is advancing from the north to capture and destroy the Leavenworth Water Works.

Special Idea (Brown).

The Brown force consists of C and D companies of Sixth Infantry, two guns Twenty-ninth Battery Field Artillery, Troop B Fourth Cavalry, and such detachment hospital corps as may be necessary. No baggage wagons will be needed.

This is the only source of water supply for the City of Leavenworth, and you have orders to hold it at all hazards.

Required:

(*a*) You are to make such dispositions as you deem best to hold this position, including trenches needed, if you think any desirable.

(*b*) When attacked you will make the same dispositions during the action as you would make in actual warfare.

(*c*) The rules for field exercises in minor tactics will be observed.

(*d*) Troops will wear service uniform, and the regular field equipment for light marching order. Each man will be provided with 100 rounds of blank ammunition, and each gun with twenty rounds of blank ammunition.

(*e*) You will be in position by 8:00 A. M. June 12, 1904.

(*f*) You will look over the ground and write out the order for the occupation of the position. Hand in a copy of order to the senior instructor of the post school.

(*g*) All officers will be assembled at — P. M. June 12, in order that the senior umpire may render a short lecture on the exercise executed.

Problems will not be discussed with opponents before solution.

SECOND SET.

By Lieutenant F. E. BUCHAN, Third U. S. Cavalry.

No. 1. Map Problem.

SECURITY AND INFORMATION.

ADVANCE GUARD AND OUTPOSTS ON THE MAP. ALL ARMS.

General Idea.

A Blue army in Missouri is operating against a Brown army which is advancing from the vicinity of Lawrence, Kansas.

The first corps of the Blue army has reached Platte City, Missouri, when the Blue commander decides to cross the Missouri River by the bridges at Leavenworth and Fort Leavenworth and attack the Brown army in Kansas. He accordingly directs the commander of the first corps to detach the first and second brigades of the first division of his

corps to seize and hold the bridges across the Missouri at Leavenworth and Fort Leavenworth, respectively.

Special Idea (Blue).

The advance guard of the second brigade, first division, first corps, consists of Troops A and B, Third Cavalry, Third Battalion Twenty-fourth Infantry, and the Tenth Battery Field Artillery.

At 9 A. M. the head of the reserve has reached the west end of the bridge at Fort Leavenworth. From information gained from the inhabitants, it is learned that a strong force of Browns camped last night at Tonganoxie, fifteen miles southwest of Leavenworth. At 8:30 A. M. Brown cavalry patrols were seen near the Frenchman's and in the vicinity of Metropolitan Avenue and Twentieth Street. This information is transmitted to the brigade commander, and at 9:15 A. M. the advance guard commander receives an order to post his advance guard as an outpost covering the approaches of the bridge, pending the crossing of the brigade.

Required:

1. Indicate on the map the location, strength and composition of all parts of the advance guard at 9 A. M.
2. The order of the advance guard commander establishing the outpost.
3. Indicate on the map the location, strength and composition of all parts of the outpost.

No. 2. Sheet No. 1.

Terrain Ride. Rear Guard and Position.

General Idea.

A Blue force consisting of a brigade of infantry, a squadron of cavalry, and a battery of field artillery were defeated by a superior force of Browns yesterday at Easton, fifteen miles northwest of Leavenworth, and is now retreating into Missouri via Fort Leavenworth and the Rock Island wagon bridge.

The Browns are known to be in pursuit.

Special Idea (Blue).

The rear guard of the retreating force consists of Troops A and D Third Cavalry, Third Battalion Twenty-fourth Infantry, and the Tenth Battery Field Artillery.

At 10 A. M. the head of the main body has reached Grant Monument, Fort Leavenworth, Kansas.

Required:

After an observation of the terrain, indicate on the map the location, composition and strength of the various parts of the rear guard.

Time for solution, one hour.

No. 2. Sheet No. 2.

Terrain Ride. Rear Guard and Position.

Special Idea (Blue).

The main body of the Blues has reached the Rock Island bridge and is ready to begin crossing, when it is discovered that the damage to the bridge, which was supposed to have been slight, is serious enough to require repairs before it will be safe to cross it. It is estimated that a minimum of six hours will be required to complete the necessary repairs. The Blue commander decides to undertake the work, and directs the commander of the rear guard to occupy a position and check the pursuit of the Browns until the retreat of the Blues can be resumed.

At 10:15 A. M. a telephone message is received to the effect that a small patrol of Browns has just been seen at Lowemont, ten miles northwest of Leavenworth.

Required:

A tracing showing the position occupied and the disposition of the troops of the rear guard.

Time for solution, one hour.

No. 2. Sheet No. 3.

Terrain Ride. Rear Guard and Position.

Special Idea (Blue).

At 10:45 A. M. a second telephone message is received from Lowemont, stating that a force of Browns, consisting of cavalry, infantry and artillery, is approaching that place from the west.

Required:

1. The steps the commander of the Blue rear guard would take to strengthen his position.

2. Show by a tracing the location and extent of such works of defense as would be suitable and capable of completion in the time available.

No. 3.

Practice March. March of Concentration.

General Idea.

A Blue army, which has been operating along the line of the Missouri River from Atchison to Kansas City, is now concentrating at Kansas City.

Special Idea (Blue).

A detached force, consisting of Troops A and D, Third Cavalry, Third Battalion Twenty-fourth Infantry, Tenth Battery of Field Artillery, detachment of Hospital Corps, and a train of ten army wagons, which has been proceeding by marching to rejoin its command at Kansas City, went into camp on the Atchison Pike, one and one-half miles west of the Frenchman's, at 4 P. M.

At 6 P. M. the commanding officer of this force receives instructions to the effect that the Missouri Pacific Railway has been repaired and that transportation for his entire force to Kansas City will be at the station at Fort Leavenworth at 8 A. M. the following day.

It is important that the train be not delayed longer than is absolutely necessary to load.

The commanding officer decides to march his command by the following route, viz:

The cavalry via the Frenchman's, Taylor's, Millwood Road, Prison Cemetery, McPherson Avenue and Riverside to the Missouri Pacific depot.

The infantry (less one platoon) via the Frenchman's, Salt Creek Village, and thence east to Hancock Avenue, Pope Avenue, Grant Avenue, and Kearney Avenue to the Missouri Pacific station.

The artillery, via the Atchison Pike, Atchison Cross Road to Grant Avenue via New Penitentiary, north on Grant Avenue to Meade Avenue, thence to Missouri Pacific station via Sherman Hall.

The wagon train, with one platoon of infantry as escort, via the route described for the infantry.

Required:

1. A schedule showing the hours for the necessary service calls for the several detachments of the command from first call for reveille to "forward, march."

2. The time of departure, and the marching time for each detachment.

3. Assuming that the necessary facilities for loading are at hand, at what hour could the troop train leave Fort Leavenworth?

4. The number and kinds of cars necessary to transport this force.

No. 4.

EXERCISE ON TERRAIN WITH TROOPS. ALL ARMS. ATTACK AND DEFENSE OF A POSITION.

General Idea.

A Blue reconnoitering force consisting of a brigade of infantry and a battery of field artillery was defeated yesterday at Tonganoxie, Kansas, fifteen miles southwest of Leavenworth, and is now rapidly retreating into Missouri, by way of Fort Leavenworth and the Rock Island wagon bridge to rejoin its corps at Platte City.

The Browns are pursuing vigorously.

Special Idea (Blue).

The commander of the Blue brigade, upon his advance, detached a force consisting of the Third Battalion Twenty-Fourth Infantry and two guns of the Tenth Battery of Field Artillery to guard the Rock Island wagon bridge and protect his line of retreat.

At 8:20 A. M. the lookout on Cemetery Hill signals that a Brown cavalry patrol is seen approaching from the south on the Atchison Pike in the vicinity of Metropolitan Avenue.

Special Idea (Brown).

The commander of the Browns has detached a force consisting of Troops A and D Third Cavalry and four guns of the Tenth Battery Field Artillery with orders to get in rear of the retreating Blue force and destroy the Rock Island wagon bridge and cut off the retreat of the Blues in this direction.

At 8:25 A. M. the point of the Brown force has reached the Atchison cross-roads and discovers what appears to be a Blue sentinel on South Merritt Hill.

THIRD SET.

By Lieutenant RAYMOND S. BAMBERGER, Seventh U. S. Cavalry.

No. 1. Map Problem.

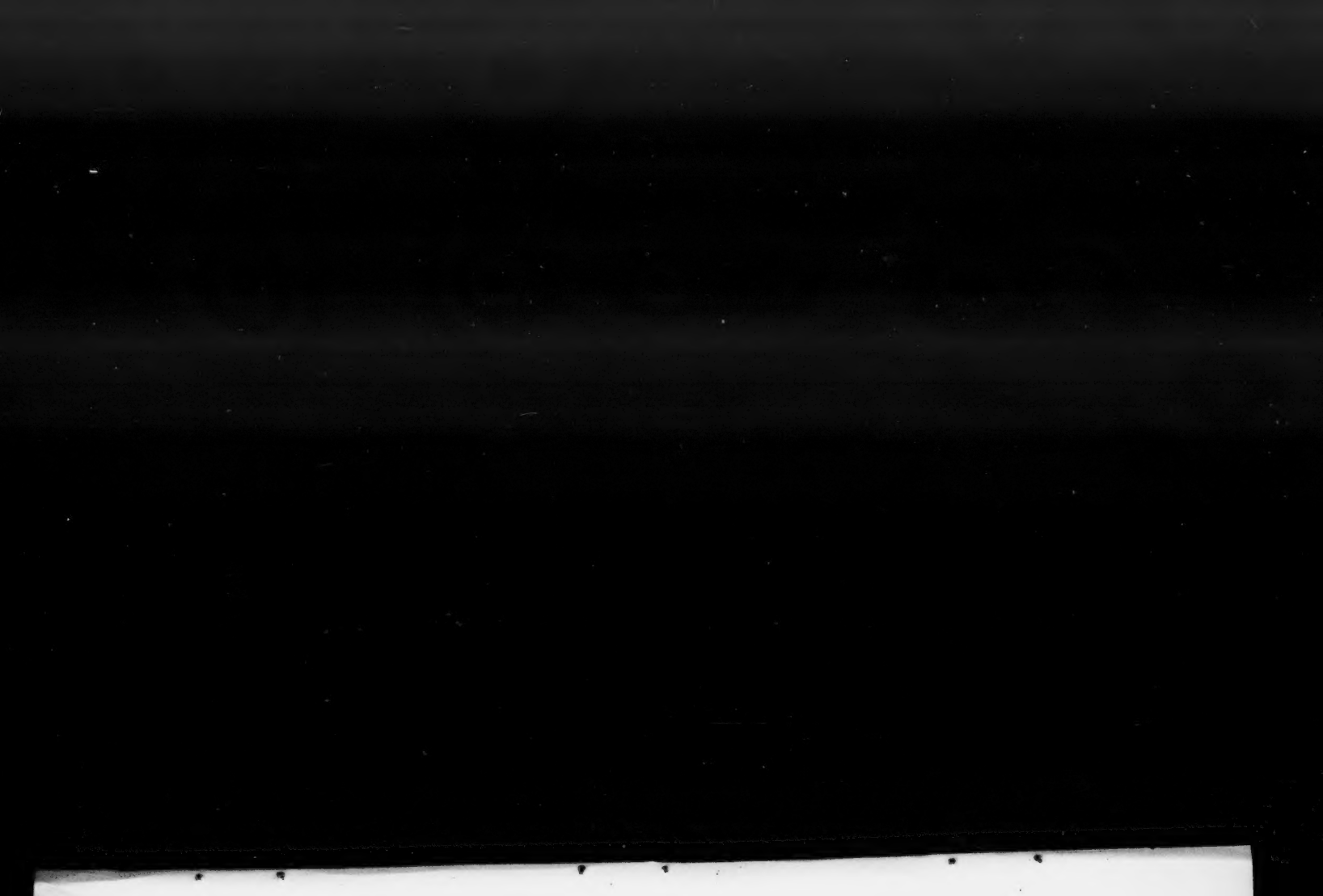
FORT LEAVENWORTH, KANSAS, June 10, 1904.

PROBLEM NO. 1. SHEET NO. 1.

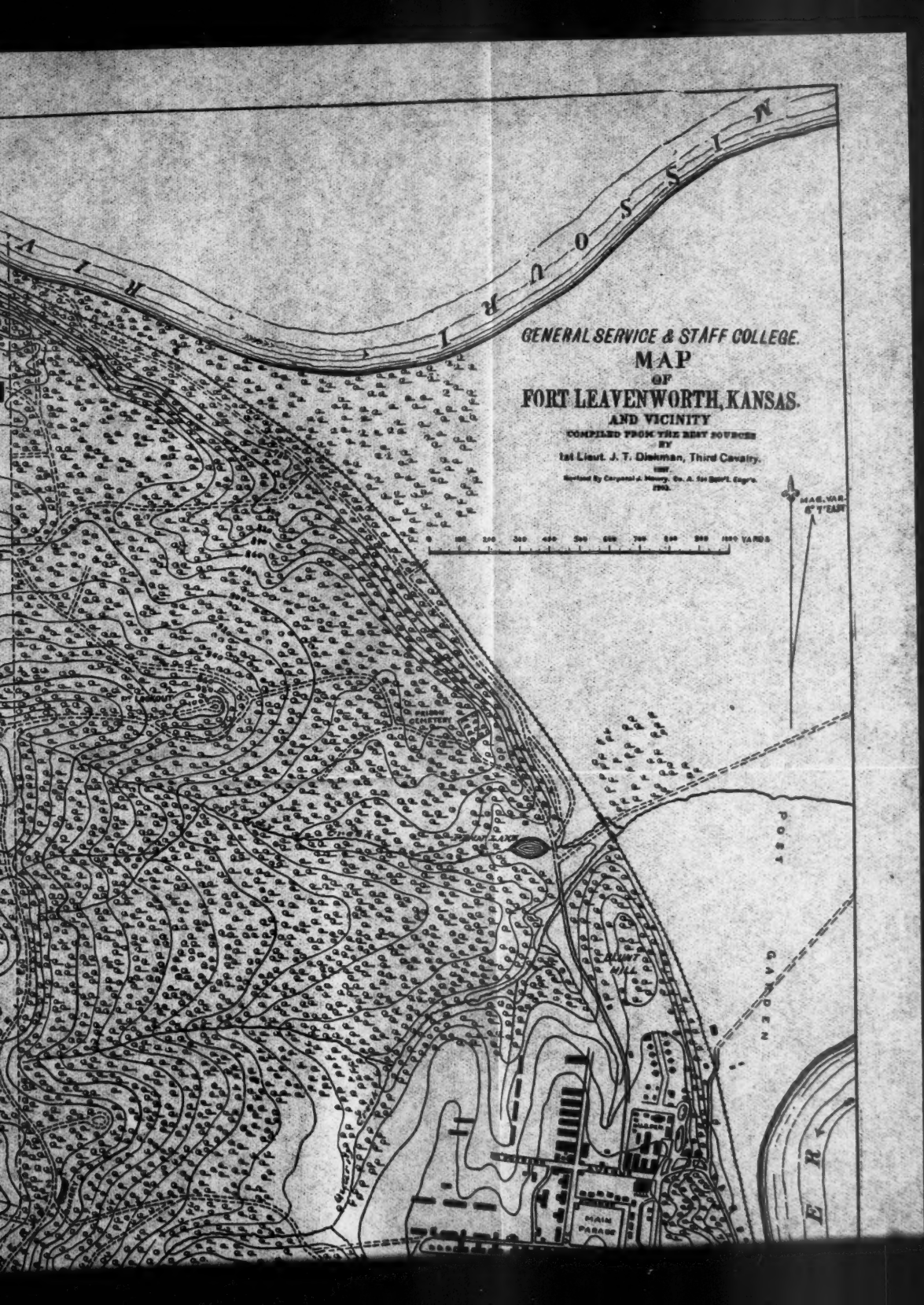
MAP EXERCISE. ADVANCE GUARD.

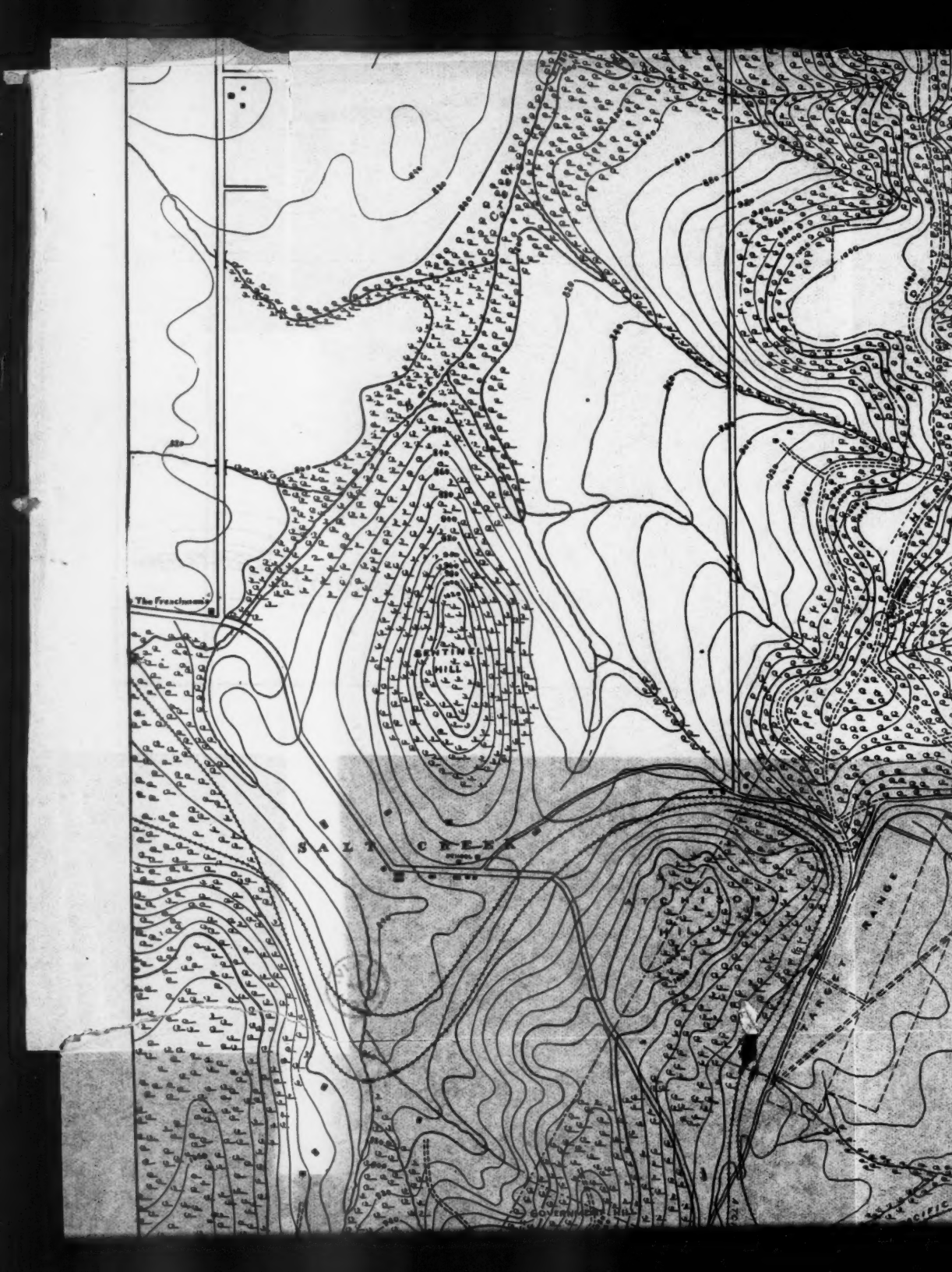
General Idea.

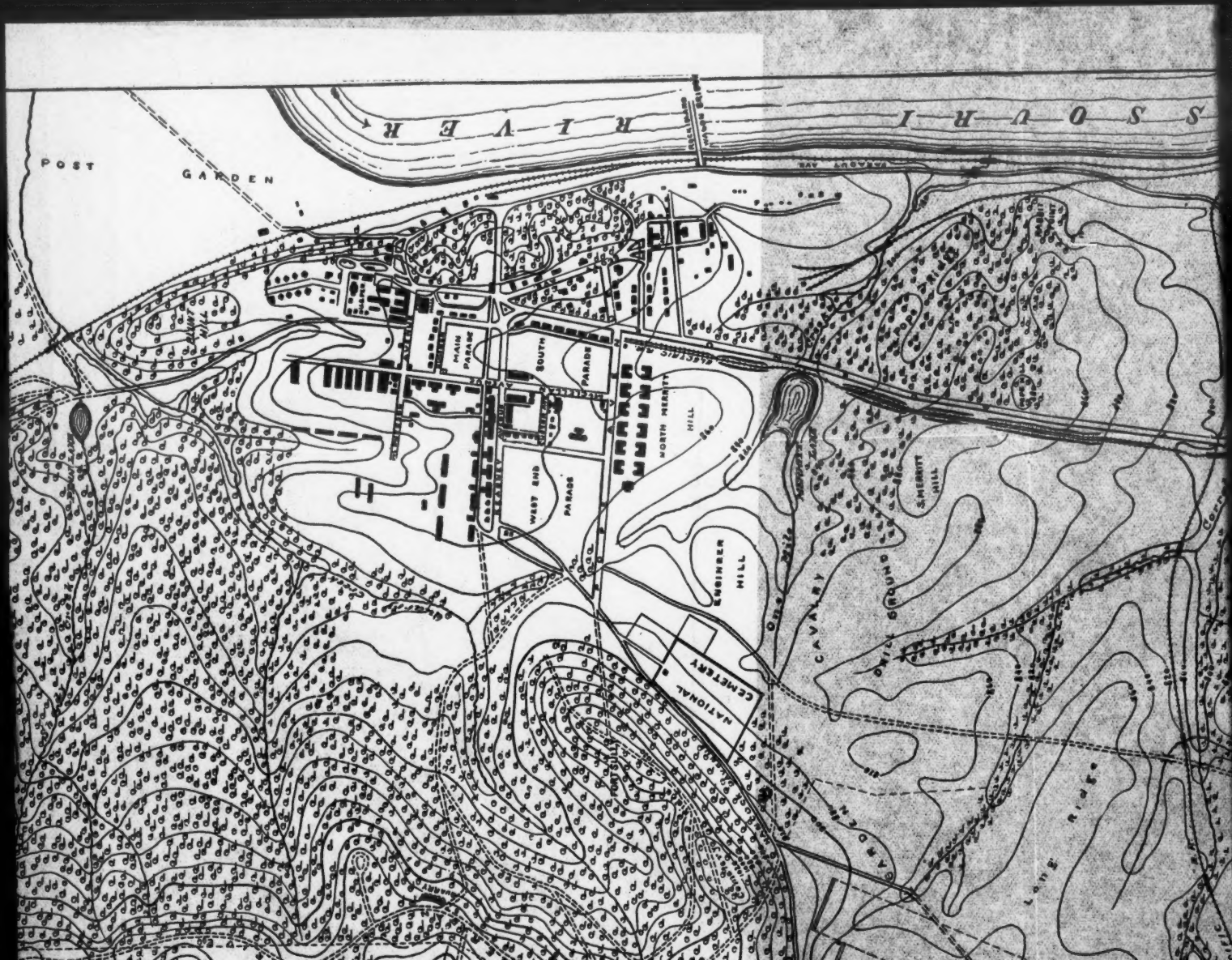
A Brown force is operating in Missouri, east of Fort Leavenworth. A Blue force is operating near Lowemont, eight miles west of Fort Leavenworth. The Brown commander sends a brigade of infantry, a regiment of cavalry and a battery of field artillery to move via the Atchison Pike in order to cover the crossing of the Brown army over the Rock Island wagon bridge.




Taylor
HANCOCK HILL


MISSOURI RIVER
GENERAL SERVICE & STAFF COLLEGE.
MAP
OF
FORT LEAVENWORTH, KANSAS.
AND VICINITY
COMPILED FROM THE BEST SOURCES
BY
1st Lieut. J. T. Diekman, Third Cavalry.
1907.
Revised By Corporal J. Mowry, Co. A, 1st Battl. Engrs.
1903.
MAG. VAR. 6° 7' EAST
0 100 200 300 400 500 600 700 800 900 1000 YARDS
ST. LOUIS
PRISON CEMETERY
CRICKET
CRICKET LANE
POST
GARDEN
BLUFF
MAIN PARADE
E R


The Frenchman
SENTINEL HILL
SALT CREEK
TARGET RANGE


POST
GARDEN
RIVER
SOUTH
MAIN PARADE
SOUTH PARADE
WEST END PARADE
NORTH HERRITT HILL
ENGINEER HILL
CEMETERY
NATIONAL
CAVALRY
DRILL GROUND
SHERRITT HILL
Lone Ride


The Frenchmans
SENTINEL HILL
SALT CREEK
TARGET RANGE
GOVERNMENT HILL
UNION PACIFIC
SOUTHWEST HILL
AVENUE HILL
CITY OF


WEST END PARADE
SOUTH PARADE
NORTH MERRITT HILL
ENGINEER HILL
NATIONAL CEMETERY
CAVALRY DRILL GROUND
S. MERRITT HILL
GRANT HILL
NEW U.S. PEN.
MISSOURI RIVER
F LEAVENWORTH

Special Idea.

The detachment commander receives his orders to move out at 6:00 A. M. June 11, 1904. These orders are received at 6:00 P. M. June 10, 1904. His advance guard consists of Companies A, B, C and D, First Infantry, Troops A and B, First Cavalry, and the First Battery Field Artillery. The advance guard moves via Pope Avenue, Hancock Avenue, Cross Roads northwest of target range, Salt Creek, Atchison Pike.

Required:

(*a*) The orders of the detachment commander for the march.

(*b*) A drawing on the map showing accurately to scale, the position, composition and strength of each part of the advance guard when the reserve has reached the corner of Pope and Grant Avenues.

No. 2. Terrain Ride.

FORT LEAVENWORTH, KANSAS, June 10, 1904.

PROBLEM NO. 2. SHEET NO. 1.

TERRAIN RIDE. REAR GUARD.

General Idea.

A Blue force is retreating through Leavenworth via the Atchison Pike. A superior Brown force is pursuing vigorously.

Special Idea.

You are in command of the Blue rear guard, consisting of Companies A, B, C, and D, First Infantry, Troops A and B, First Cavalry, and the First Battery Field Artillery, with orders to delay the pursuit as long as you can.

Required:

A diagram, to scale, on the map, showing position, strength and composition of the various parts of your rear guard, when the reserve has arrived at Atchison cross-roads.

PROBLEM NO. 2. SHEET NO. 2.

TERRAIN RIDE. REAR GUARD.

You decide to take up a position on Atchison and Government Hills.

Required:

(*a*) Your orders for assuming this position.

(*b*) A diagram (tracing) showing the position assumed, together with your disposition. Mark on the tracing three permanent points so tracing may be oriented.

(*c*) How will you withdraw your troops? (You have forced the Browns to deploy and now wish to withdraw.)

No. 3. Practice March.

FORT LEAVENWORTH, KANSAS, June 10, 1904.

PROBLEM NO. 3. SHEET NO. 1.

MARCH OF CONCENTRATION.

General Idea.

A Brown army is operating twenty miles northwest of Fort Leavenworth. A Blue army is holding the line from the Missouri River, through Hancock Hill and to the west. A battery of artillery and two companies of infantry are stationed at Hancock Hill. A troop of cavalry is at Plum Creek Bridge, 1000 yards north of Taylor's. Fresh troops have arrived at the corner of Grant and Metropolitan Avenues.

Special Idea.

The commanding general decides to relieve part of the line. He orders two companies of infantry to march via Grant and Kearney Avenues, west to quarry on Sheridan's Drive, north to Hancock Hill and there deliver orders to the infantry stationed there to move out in one hour via Point Lookout, Prison Cemetery, Penn Lake, Old Prison, McPherson, Scott, and Pope Avenues to Grant Avenue to intersection with Metropolitan Avenue. The officer commanding the relieving force will instruct the artillery to move out from Hancock Hill, via the same route as taken by the infantry, but at such a time as to reach the rendezvous

(Grant and Metropolitan Avenues), at the same time as the infantry. The cavalry will move via Grant, Pope, McClellan and McPherson Avenues, to the Old Prison, Penn Lake, Prison Cemetery, Millwood Road, Taylor's, Plum Creek Bridge, and will relieve the cavalry at that place. One hour after this, the relieved cavalry will start back and will march via Taylor's, the Frenchman's, Atchison Pike to the Atchison cross-roads, south to Metropolitan Avenue, east to Grant Avenue.

The commanding general will so time the departure of the relieving troops that all will arrive at the rendezvous, at intersection of Grant and Metropolitan Avenues at 4:00 o'clock P. M. the same date.

Required.

(*a*) Time of departure of infantry from rendezvous.

(*b*) Time of departure of cavalry from rendezvous.

(*c*) Time of departure of artillery from Hancock Hill.

Note: Each arm will use its ordinary marching rate.

No. 4. Exercise With Troops.

FORT LEAVENWORTH, KANSAS, June 10, 1904.

PROBLEM NO. 4. SHEET NO. 1.

ATTACK AND DEFENSE OF CONVOY. WITH TROOPS.
(Preliminary Order.)

General Orders, No. 1. FORT LEAVENWORTH, KAN., June 9, 1904.

1. In all field exercises no men will be left behind except the sick, prisoners and necessary guard and the following:

In each company, noncommissioned officer in charge of quarters and one cook. In each troop or battery, noncommissioned officer in charge of quarters, one cook and the stable sergeant.

2. The provisions of the "Rules for Field Exercises in Minor Tactics" will be strictly complied with.

3. Companies A, B, C and D, First Infantry and one platoon First Battery Field Artillery will report to the chief umpire, Lieutenant Colonel A. B. C., to-morrow morning in light marching order at 9:15 A. M., northeast corner West End Parade. Uniform: Brown.

Troops A and B First Cavalry, and two platoons First Battery Field Artillery will report at same place at 8:30 A. M. The cavalry will be armed with revolver and carbine. Uniform: blue.

4. Each soldier will have ten rounds blank ammunition.

5. The quartermaster will cause twelve escort wagons to report at the northeast corner of the West End Parade at 9:15 A. M. to-morrow.

By order of Colonel A. B. C.

(Signed) M. V.,
First Lieutenant Artillery Corps,
Acting Adjutant.

General Idea.

A Brown force is operating about twenty miles south of Leavenworth against a Blue force further south. The Browns draw supplies from Fort Leavenworth. The Blues are threatening the Brown trains with small raiding parties.

Special Idea (Brown).

For the officer commanding the Brown forces, twelve escort wagons, four companies of infantry and one platoon of artillery will report to you. The twelve wagons represent a train of eighty wagons, which you will so arrange as to represent sections of proper length and at regulation section distance. You will proceed toward Leavenworth with your train, which contains ammunition for the Browns. The escort is as above indicated. You will leave at 9:30 A. M. You are in command of the convoy, and you will designate the officers in charge of the escort and of the train respectively.

Special Idea (Blue).

For the officer commanding Blue forces, two troops of cavalry, representing four provisional troops, and two platoons of artillery, will report to you. You will proceed to Salt Creek and remain there until 9:30 A. M., when you will proceed westward, going on road north of Atchison Hill and toward the Target Range, and then towards Grant Avenue.

All officers will submit a concise report of their operations before 8:30 A. M., June 11, 1904.

FORT DES MOINES, IOWA.

By HENRY SHINDLER.



THE occupation of Fort Des Moines, Iowa, by a squadron of cavalry gives the mounted arm of our service a station that should make the happiness of the officer and trooper quite complete. Work on buildings for a second squadron has reached a stage that will permit their occupancy late in the fall, while another appropriation is ready for the construction of buildings for a third squadron. Their completion is expected by fall of 1905, and the cost to the government for this post will have been $2,000,000.

Fort Des Moines is four miles due south of the business center of Iowa's capital, Des Moines. The site upon which the post is built could not have been chosen with better judgment to meet all the requirements of a first class cavalry station. This the new post is in every sense. Located upon a high plateau, the surrounding view furnishes a magnificent landscape. There is not a richer agricultural section in all Iowa.

Des Moines is in the very hub of the State's great railway system, and the post is reached by a splendidly operated electric line, furnishing excellent service for both passengers and freight. The distance between Fort Leavenworth and this new cavalry garrison is less than 200 miles, and reached in a most direct line by the Chicago Great Western Railway, covering the distance in less than six hours.

Fort Des Moines is the only military post within the limits of Iowa. There have, however, been two Forts Des

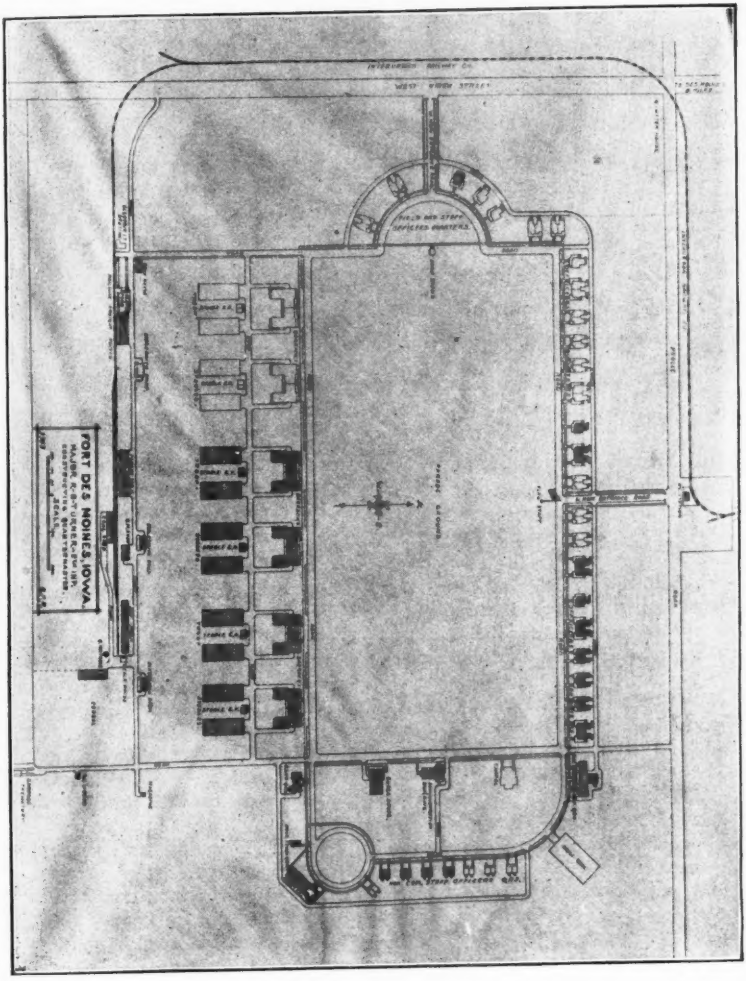
Moines in past years. The first was established by Lieutenant Stephen W. Kearney, in 1834, and was situated in Lee County, but continued only three years. The second Fort Des Moines was established by Captain James Allen,* First Dragoons, in 1842, and was situated at the junction of the Des Moines and Raccoon Rivers, now in the business and railroad center of Des Moines.

Captain Allen was sent by the War Department to select a site for a post, being stationed at that time at Fort Sandford, near the present city of Ottumwa. In his report why a post should be built upon the site he selected he assigns the following reasons:

"The soil is rich. Wood, stone, grass and building material close at hand. It is equal distance from the Mississippi to the Missouri. It will also be about the head of keel boat navigation on the Des Moines. I think it much better than any other point because it will be hard to get supplies further up, and no point or post that may be established on this river need be kept up more than three years, or until the Indians shall leave.

"I would build but common log cabins or huts for both men and officers, giving them good floors, windows, doors, stables, very common but close and roomy, pickets, block houses, corrals, and such like. The buildings to be placed in relation to comfort, convenience and good taste, and of defense, so far as the same may comply with the first rule.

* Captain James Allen, the commandant of the fort from its first occupation to within a few weeks of its abandonment, was a native of Ohio, born in 1806, and at the age of nineteen appointed to the Military Academy from the State of Indiana. He was graduated July 1, 1829, and appointed as 2d lieutenant in the Fifth Infantry; joined his regiment at Fort Brady, where he served until the 5th of March, 1833, when he was transferred to the new dragoon regiment as second lieutenant. From this time until his death his services on the frontier were continuous and of the highest value to the government. Joining his regiment at Fort Dearborn, he remained on staff duty until his promotion as first lieutenant May 31, 1835, when he was assigned to certain engineer duties in connection with the reconnaissance of the Indian country. He served during the next decade at Forts Leavenworth, Gibson, Atkinson and Sandford, from whence he marched to the establishment of Des Moines. On the abandonment of that work, he was appointed lieutenant colonel and commander of the Mormon Battalion of Missouri Volunteers for the Mexican War, and was en route to New Mexico with his command, when he suddenly died near Fort Leavenworth, August 23, 1846, at the early age of forty, and was laid to rest in its cemetery.


FORT DES MOINES, IOWA.

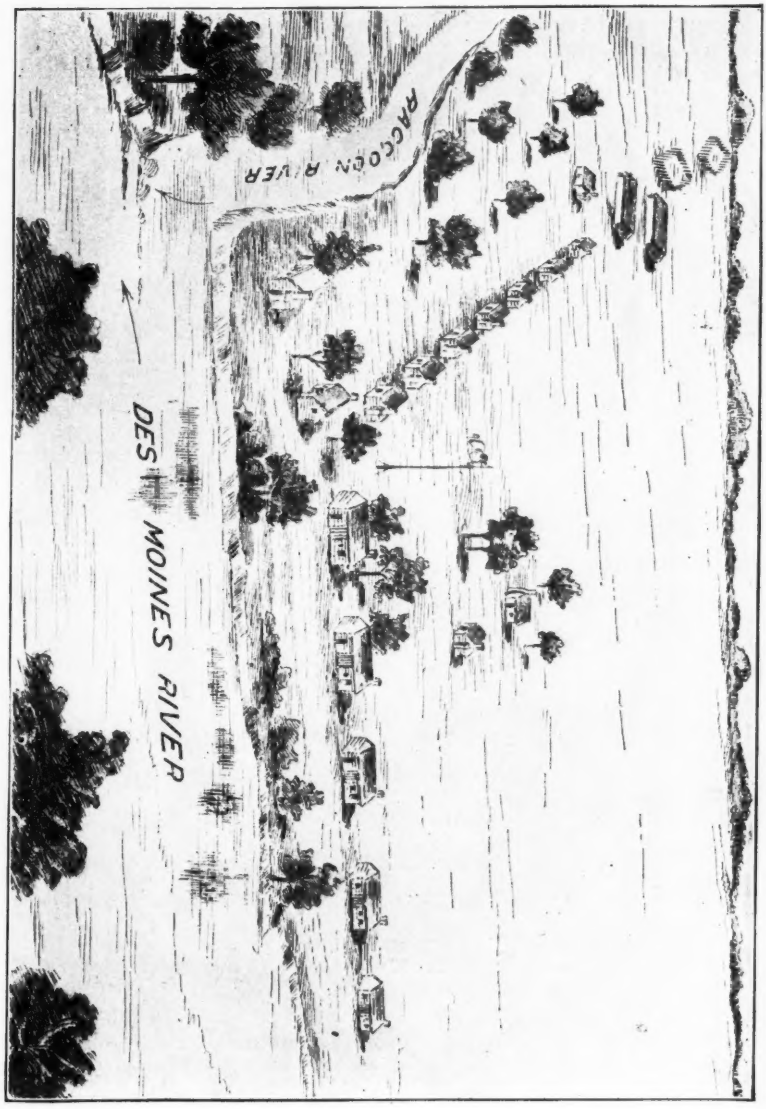
Ten mechanics, five laborers and four yoke of oxen ought to be furnished by the quartermaster's department, all to be ready to go up and begin early in the spring. Pine lumber for the necessary parts of the buildings ought to be sent up in keel boats in the spring rise of the river. Provisions, corn, etc., ought to be sent up at the same time."

Noting the character of the buildings which Captain Allen recommended for the Fort Des Moines of 1842, the younger generation of officers can form a good idea as to the few conveniences enjoyed by their brother officers in the earlier history of our army, compared to those now provided by a generous government.

The post was, however, not destined to remain many years upon the map of Iowa, except in memory, for in 1846 it was abandoned under the following orders:

"First Lieutenant Grier,* commanding Allen's company, First Dragoons, will as early as practicable, take up his line of march from Fort Des Moines for Fort Leavenworth escorting all the Fox Indians, who have not left the Territory of Iowa, in accordance with their treaty stipulations of October, 1842, to their permanent homes, as designated by the President of the United States.

*William N. Grier entered the U. S. Military Academy in 1831, graduating in 1835. He served in the regular army thirty years. Until the Civil War his service was for the most part on the frontier, though he was assistant instructor of infantry and cavalry tactics at West Point in 1840 and 1841, and a participant in the Mexican War. He was at several points in Iowa from 1843 to 1846, mainly at Fort Des Moines No. 2. He fought the Apaches in 1849 and was once wounded. He served in New Mexico from 1849 to 1856, when he marched to California, whence he was soon ordered north to Oregon. He went to Fort Walla Walla in 1857, where he remained until 1861, during which time he participated in many skirmishes and battles with the Spokane and hostile Indians. At the commencement of the Civil War he was promoted to major of the Second Regular Cavalry and was acting assistant inspector-general of the Army of the Potomac, 1861–62. He took part in many battles, and was wounded at Williamsburg May 5, 1865. He was stationed at Davenport, Iowa, as superintendent of volunteer recruiting service for this State, from March 1863 to June 12, 1865. He was brevetted brigadier-general in the regular army and promoted to colonel of the Third Cavalry. He served with his regiment at Fort Union, N. M., from July 12, 1868 to May 1870. His last command was at Camp Halleck, Nevada, December 15, 1870, at which date this gallant officer was retired from active service. He died at Napa City, California, July 8, 1885.



BY COURTESY HISTORICAL DEPARTMENT IOWA.

FORT DES MOINES, IN 1844—THE PRESENT SITE OF THE CITY OF DES MOINES.

"Lieutenant Grier will leave at Fort Des Moines one steady noncommissioned officer and two privates, for the purpose of taking care of all of the public buildings, quartermaster's and subsistence stores, ordnance and ordnance stores, and all other public property, until instructions are received from the War Department for their final disposition.

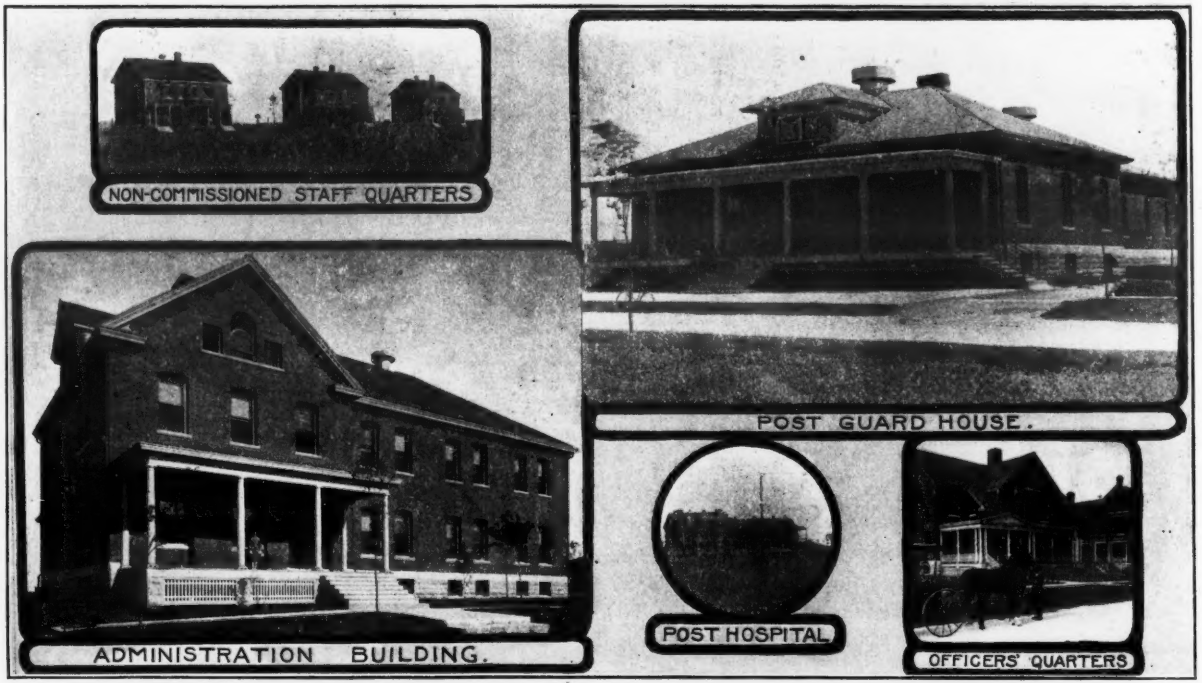
"Allen's company of dragoons will, after having executed the above duty, form a part of the permanent garrison of Fort Leavenworth."



BY COURTESY HISTORICAL DEPARTMENT IOWA.

THE QUARTERS OF LIEUTENANT WM. N. GRIER. FIRST HOUSE ERECTED IN FORT DES MOINES, IA., IN 1842.

Ten years ago the present chairman of the House Military Committee, Hon. J. A. T. Hull, of Des Moines, entered Congress. He sought a place on the military committee, and succeeded. It had long been his hope that some day he



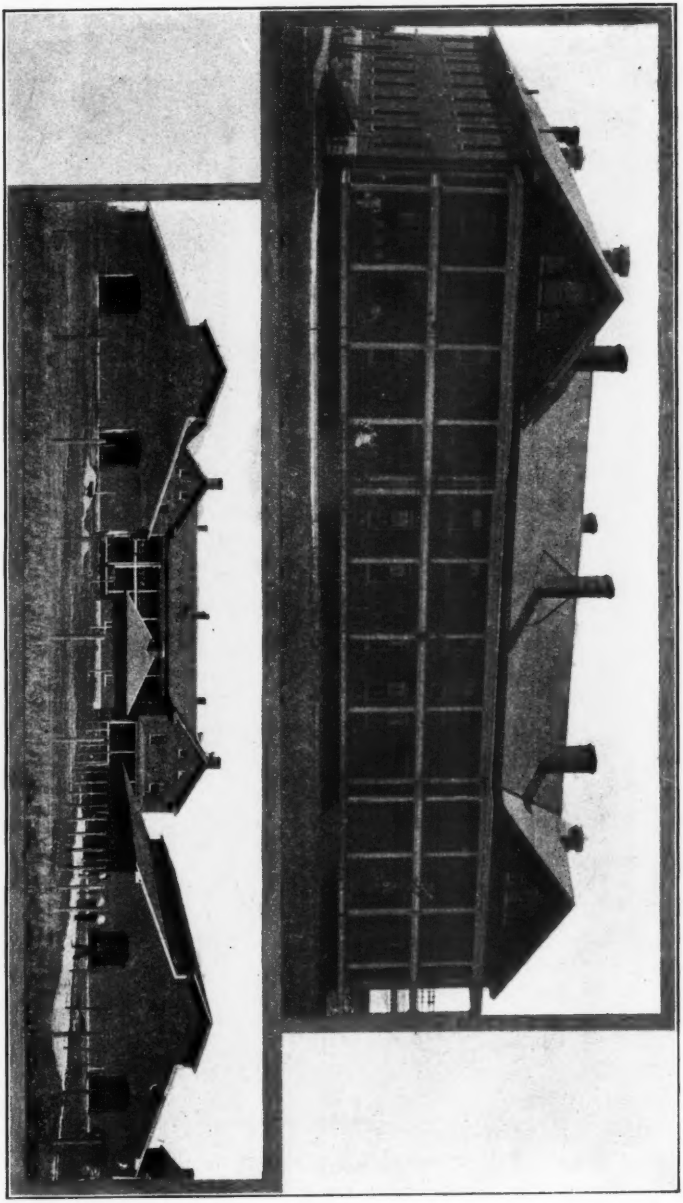
SOME OF FORT DES MOINES' BUILDINGS.

would be able to secure a military post for his State, and its location upon a site near the capital of the State. He took hold of this work with the zeal and enthusiasm which has ever characterized his entire congressional career. As chairman of the committee he had prestige and power to give the enterprise just the help and direction it needed.

The first bill was introduced in the Fifty-fourth Congress, but without success. It was again introduced by him in the Fifty-fifth Congress, when failure was again written upon the measure at the close of the session. In the Fifty-sixth Congress, however, the bill was enacted into law and the post near Des Moines became a certainty. The site was presented by the citizens of Des Moines, who contributed $35,000 for the purpose.

While Mr. Hull's efforts were ably seconded by the best people of his State, there was nevertheless, a strong element in Des Moines opposed to the building of a military post near that city. This opposition was due, it is alleged, to fear that the soldiers would be sent there for the purpose of interfering in an unwarranted manner in business affairs. It was very difficult to convince many of Mr. Hull's constituents that the United States soldier was not subject to local civil authorities, and could only be called upon to preserve the peace when all the State authorities were powerless and when the Governor of the State made formal requisition on the President of the United States for aid, or when interstate commerce was interfered with in an unwarrantable manner. Mr. Hull pointed out to his people that when either of these conditions should exist, no matter whether the troops were located there or not, they would, if called upon, be sent from wherever they were stationed; so that the location would make no difference with this view of the case.

On November 13, 1903, the post was dedicated with appropriate military and civic ceremonies. The Governor of the State, Major General John C. Bates, United States Army, Hon. J. A. T. Hull, and many other distinguished Iowans, lent their presence to the occasion, making the event a memorable one in the history of the State.



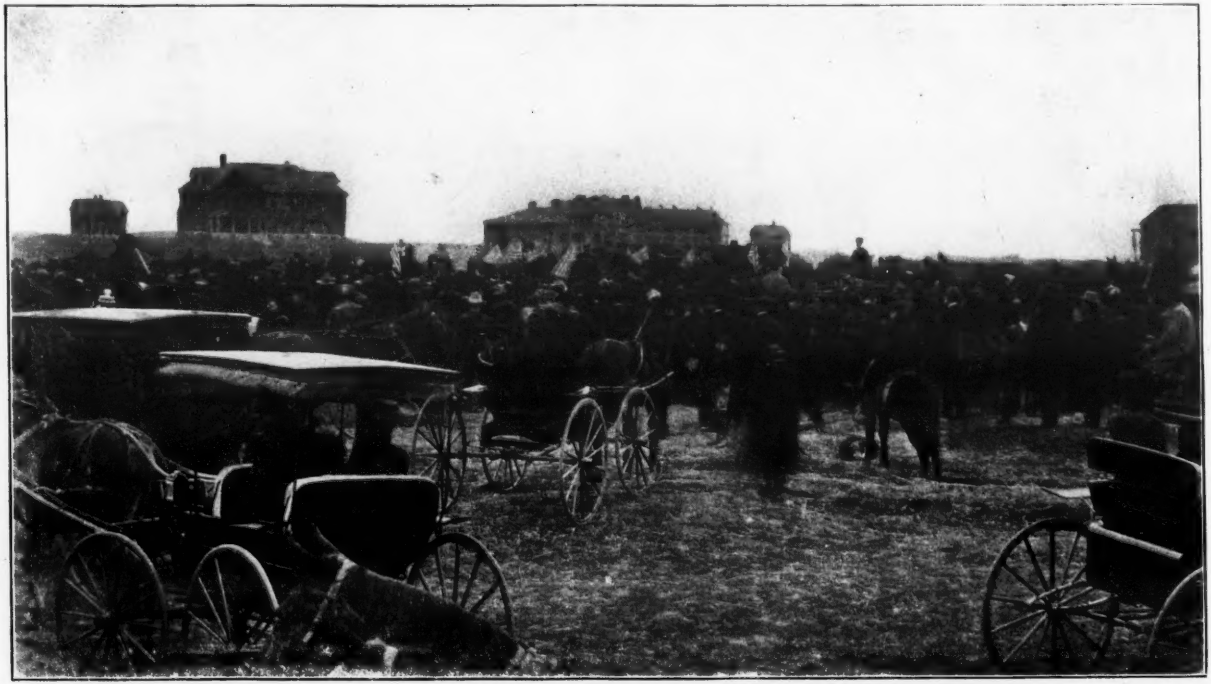
BARRACK FOR TWO TROOPS. REAR COVERED BY TROOP STABLES.

The post reservation is within the city limits of Des Moines, an extension made necessary after the post's location, in order to permit the Des Moines City Water Company to extend its mains to the post, which has been done.

The Des Moines reservation comprises 400 acres. An additional 525 acres of land have been secured for a rifle range, three miles to the south of the post. The State of Iowa, for the purpose of providing sufficient ground for the annual encampment of its National Guard, has purchased 160 acres of land adjoining the United States reserve immediately to the north, and authorized the War Department to use this State land for its military operations whenever desirable. This enhances the value of the Fort Des Moines reservation, and gives its cavalry all the territory needed for ordinary movements.

All of the buildings, officers' quarters, barracks and administration building are about the main parade. The reader can form an estimate of its size from the statement that the commanding officer's quarters are just one-half mile due west from the administration building, while the distance across, from the barracks to the officers' line, is nearly a quarter of a mile. The main entrance to the post is from the north and west. The entrance from the north is midway from the troop officers' quarters, forming the north line of the parade. The west entrance admits into the main post between the quarters of field officers, grouped in a semi-circle. East of the parade is the administration building with guard house and post exchange to the left, and chapel still to be erected to right. In rear of this row of buildings are the quarters of the noncommissioned staff officers. The hospital is at the southeast, back of all quarters, and very prettily situated. The riding hall, not yet constructed, will be on the northeast corner of the post. A set of bachelors' quarters is about being finished. This building forms the east end of the officers' row and is a very substantial as well as commodious building. Another such building is to be constructed on the west end of the row.

In the arrangement of the barracks and stables for the twelve troops, Fort Des Moines has undoubtedly much the



DEDICATION CEREMONY AT FORT DES MOINES, NOVEMBER, 1903. HON. J. A. T. HULL, GOV. CUMMINGS, OF IOWA, AND MAJOR GENERAL JOHN C. BATES, U. S. ARMY, THE PRINCIPAL SPEAKERS.

best of it when convenience is considered. Each barrack building provides accommodations for two troops. The stables are built by pairs. That is, each stable is directly to the rear of its troop, a distance not to exceed 200 feet, while between these stables is the guard room building providing comfortable accommodations for the stable guard of each troop.

All the supply houses and shops of the post are in the rear of the troop stables. All stores for the post as well as material are unloaded directly from the cars. These are transferred to the electric line at Des Moines and hauled to the post. This is an excellent feature. It reduces the cost of hauling, besides a saving of time, to a minimum. The shops of the post are also along this line and conveniently located.

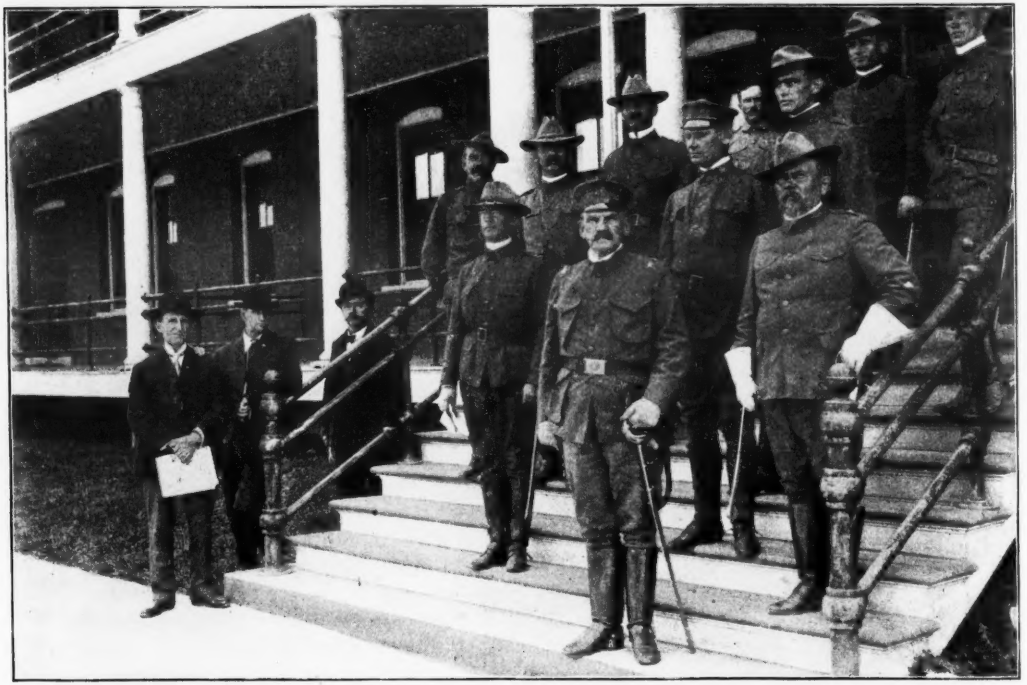
The construction of the post was assigned to Major Ruben B. Turner, Eighth Infantry, who was quite recently relieved of this charge by Captain Letcher Hardeman, Quartermaster Eleventh Cavalry.

Fort Des Moines' present garrison consists of the headquarters, field, staff and band and the second squadron of the Eleventh Cavalry. Another squadron will be ordered there as soon as the buildings now under construction, are completed. This is expected to take place late in the fall.

Since his arrival at the post last spring, Colonel Thomas has done much with the limited means at his command to beautify the post. Hundreds of fine shade trees have been set out and are growing. The parade has been sown to blue grass and all the lawns have been sodded. The post at the time the writer made a visit to it in August, presented a very pretty appearance.

The following is a list of buildings for the two squadrons:

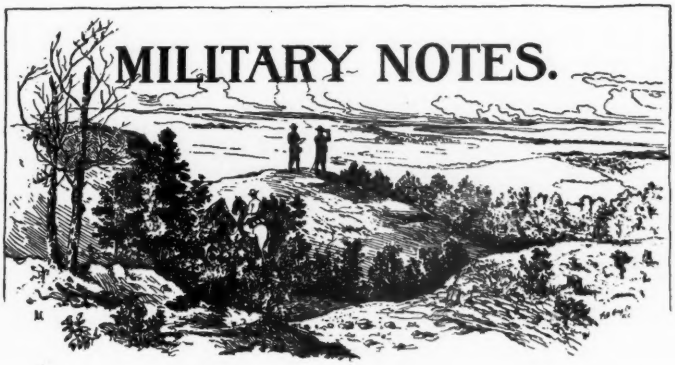
One commanding officer's quarters.
Two field officers' quarters.
Four double sets of captains' quarters.
Three double sets of lieutenants' quarters.
One bachelor officers' quarters (ten officers).
Four double sets of noncommissioned officers' quarters.



GROUP OF DES MOINES OFFICERS, WITH LIEUTENANT-GENERAL CHAFFEE IN CENTER.

Upon the completion of a recent inspection by the Lieutenant-General of the Army, he permitted himself to be photographed with the Eleventh Cavalry officers serving at the Post. Colonel E. D. THOMAS, commanding the Post, stands to his left.

One hospital steward's quarters.
One hospital.
Four double sets of cavalry barracks.
One band barracks.
Eight cavalry stables, ninety horses each.
Four double sets of stable guardhouses.
Two blacksmith shops.
One quartermaster's stable, thirty animals.
One hay shed.
One coal shed.
One granary.
One quartermaster and commissary storehouse.
One bakery.
One magazine.
One oil house.
Administration building.
One guardhouse.



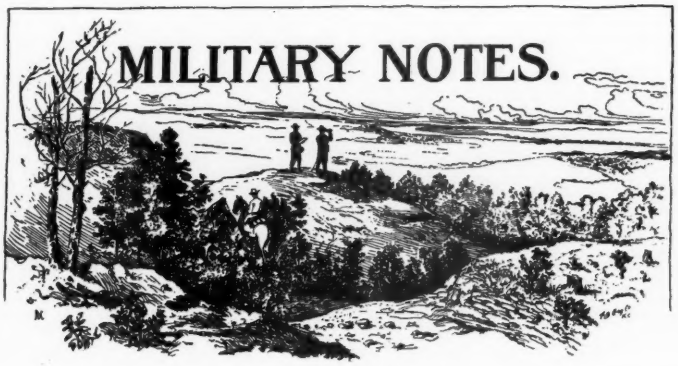
USE OF CARBINE SIGHTS.

By Captain H. H. PATTISON, Third Cavalry.

THE following method of teaching recruits the theory and use of the sights of the carbine is given in order that it may help some officers to convey to their men a practical knowledge of sighting before they begin actual firing. It is not intended to take the place of the drills and instructions prescribed in the Firing Regulations for Small Arms, but as an addition to them.

It has always been difficult to fix in the minds of men the difference between "fine," "half" and "full" sights, and it has been especially hard to give them a correct understanding of the half sight. To show these more clearly I had my troop blacksmith take a piece of iron water pipe, about six feet long and about two inches in diameter, and fasten near one end a piece of iron about one and one-half inches long for a front sight. About eighteen inches from the other end, and on the same side of the pipe, was fixed by a screw an L-shaped piece of iron, with a wide and deep notch in the upright part. To carry out the likeness a rough stock was fastened to the barrel. The magnification of the sights and

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their parts makes it much easier to show the different kinds of sights, and by laying a coin on top of the rear sight the "half sight" is shown more clearly than is possible with the smaller parts of the regular sights.

To show the effects of moving the rear sight to the right, left, up and down, and the effects of different sights, the barrel is fastened by a rope or clamp near the muzzle to an immovable object, the stock being supported by a pair of hinged legs, one of which is bound to the stock. With the rear sight set straight and the front sight vertical, the gun is aimed at a fixed bull's eye, the legs being moved until an accurate sight is obtained. A movable bull's eye is then moved into line with two pairs of cross-hairs so fixed in the bore that their intersections are at the center. The two bull's-eyes show where the lines of sight and fire strike the target, and can be made to coincide by an adjustment of the relative heights of the sights and the distance to the target. The rear sight is then moved to one side, the gun sighted as before at the fixed bull's-eye, and the movable bull's-eye then moved into the line of fire. The movable bull's-eye will be found to have followed the movement of the rear sight, and the men can see graphically the result of changes. In the same way can be shown the effects of raising or lowering the rear sight, of canting the piece, and of sighting along the side of the notch of the rear sight.

In conducting the sighting drills prescribed in the Firing Regulations for Small Arms, it has always led to confusion in the minds of the men if they were told the exact errors they made, because the results with the gun placed on a sandbag and aimed at a movable bull's-eye are exactly the reverse of those in actual firing; so in these exercises they are simply told that they have not taken a uniform amount of front sight or that they have not sighted through the middle of the notch according to their errors, and the large gun is used to show the effect of the different mistakes.

In case the large gun cannot be constructed, the same results may be obtained by removing the bolt from the carbine and fastening it near the muzzle to an immovable object, supporting the butt with a pair of hinged cross-legs, the

essential point being that the gun be moved about the muzzle as a center and not about the butt when changed from one sight to another.

NECESSITY FOR A POCKET RANGE FINDER.

By Major W. C. BROWN, First Cavalry.

IN literally camping for the past six months with the United States Magazine Rifle, Model 1903, at the experimental range near Fort Clark, Texas, firing many thousands of rounds of ammunition from a firing stand with a muzzle rest to secure exterior ballistic data of the new arm, the writer has become impressed with the fact that while in the adoption of this rifle, fire can be made effective at considerably greater ranges than heretofore, and this efficiency will doubtless be increased by the use of a telescopic sight by sharpshooters and expert riflemen, we shall fail to profit by its superiority unless means are found for readily estimating ranges.

It is thought that we lose many of the advantages of an accurate long range rifle from the inability of officers and enlisted men, even those best qualified in this direction, uniformly to estimate distances correctly. The accuracy of the United States Magazine Rifle, Model 1903, is far ahead of our capabilities in judging distances. A man who will make remarkably close estimates under favorable conditions of weather, may fail, and in doing so mislead all those who depend upon him, when conditions are unfavorable.

If a small portable range finder were supplied to each company it would enable officers and noncommissioned officers to secure correct estimates of the range in all sorts of weather, and within very narrow limits.

The experiences of our army before Santiago in 1898 afford ample illustrations of the desirability of having pocket range finders in the hands of company officers, not only in

determining distances from our own positions to the enemy's trenches, but also for the use of officers on reconnaissance duty.

Where a range finder is most needed, is in estimating distances between 1,000 and 2,000 yards. Our firing regulations, pages 61 to 65, provide for instruction in this exercise up to 1,000 yards; moreover the flat trajectory of the new rifle renders very great accuracy in the estimation of distances at the shorter ranges less necessary than heretofore. Even if estimating distances up to include 2,000 yards, constituted a part of the regular course of instruction, there is little hope of our officers and men becoming sufficiently proficient in this exercise in distances over 1,000 yards to keep pace with the accuracy of the rifle, which holds the cluster of bullets reasonably close together even to 2,000 yards. The dangerous space at the longer ranges diminishes so rapidly as the range increases, that the latter must be known within very narrow limits, such as are only attained by means of a range finder, to place the cluster of bullets where it will be most effective.

Between 1,000 and 2,000 yards the maximum continuous danger space with the new rifle is, for infantry, as follows:

Yards.	Maximum continuous danger space.
1,000	55.1 yards
1,100	45.8 yards
1,200	38.8 yards
1,300	33.0 yards
1,400	28.7 yards
1,500	25.1 yards
1,600	22.2 yards
1,700	19.5 yards
1,800	17.3 yards
1,900	15.4 yards
2,000	13.8 yards

The maximum continuous danger space for cavalry is about fifty per cent. greater.

In order that the range finder may perform its work satisfactorily the error in yards of the distances estimated should not be greater than the maximum continuous danger space for infantry in the range under consideration. An error of from five to two per cent. is therefore allowable from 1,000 to 1,400 yards; from 1,500 yards to one mile, one per cent.; 1,800

and 1,900 yards, three-fourths of one per cent.; and at 2,000 yards five-eighths of one per cent.

In the above discussion we have, as a matter of course, taken no consideration of errors due to changes in light, mirage and temperature, which greatly enhance the difficulty of putting the cluster of bullets where it will cover the target. Against this, it may be said that if but a small proportion of the bullets fired reach the target, the fire may fairly be regarded as effective.

Between 1,000 and 2,000 yards the continuous danger space for infantry ranges from 55.1 yards to 13.8 yards. For cavalry it ranges from 78.9 yards to 19.6 yards.

Even those who are quite expert in this exercise cannot be expected, with the eye alone, to estimate distances uniformly in all sorts of weather within the limits above described, or even to approximate it. Some sort of a pocket range finder becomes a necessity if we are to utilize as far as possible the advantages of the new arm.

With a view to ascertaining what could be done to supply this want we have been experimenting with a Penta-Prism range finder. The shape of this is as indicated by the cut; it is about one-half inch in thickness, weighs less than two ounces, and can readily be carried in a watch fob. It is very simple both in construction, and in its use, being a five-sided prism enclosed in a bronze case, only two faces exposed, strong, and with proper handling should last indefinitely, there being no parts liable to get out of order or adjustment.



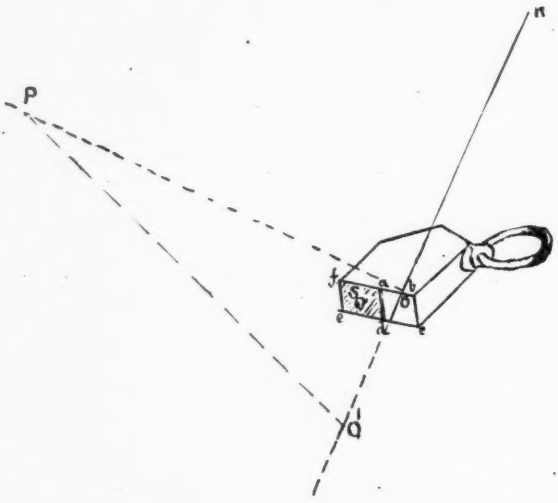
Its use is easily learned by fairly intelligent enlisted men in from fifteen to thirty minutes.

At the experimental range half a dozen of our noncommissioned officers were able to estimate distances at the first or second trial with an average error of only about three per cent., and this, too, under conditions which were not particularly favorable. Three of the estimates of the distances, ranging from 1,400 to 1,500 yards, were made with errors of three,

eight and one-third and thirteen yards; two distances aggregating four miles were estimated with an error of but three per cent.

It is believed that with a little practice those men in a company who have an aptitude for such work will get distances with an error of less than two per cent.

To determine a range with the Penta-Prism range finder the observer, holding the instrument horizontally a few inches in front of the eye and facing at right angles to the



line to the object P, whose distance is wanted, endeavors by moving about to see by reflection in the prism the object P, and by direct vision immediately above or below it some sharply defined and distant object R. All this looking into the right face a, b, c, d, the slide S is now moved so as to cover a, b, c, d, and permit the observer to look into the face a, d, e, f. The point on the ground immediately underneath O at the taking of the first observation is marked by an assistant holding a staff in a vertical position. The assistant may be dispensed with by simply driving the staff in the ground in a vertical position at this point.

The observer now steps backward to what he roughly

estimates to be one-fiftieth of the distance OP, keeping on the line OR, prolonged. The slide S, having been moved to the right to cover the face a, b, c, d, an observation similar to the first is now made through the face a, d, e, f, the observer posting himself accurately on the line OR, prolonged and finding by moving forward or backward along this line a point where P (by reflection) and R by direct vision immediately over or under the instrument are again apparently in a vertical line. The distance ÓO is now measured and multiplied by fifty, giving the distance OP. Any tape line or other measure may be used in measuring the base line, but for military purposes it is a convenience to have a tape divided into yards and hundredths of a yard. The observer then, to multiply the length of his base line by fifty, simply drops the decimal point and divides by two, getting a result expressed in yards.

The writer is aware that there are other (possibly better) range finders than that above described, but he has not been so fortunate as to find them. With the adoption and issue of the new rifle the time seems opportune for finding out which *is* the best and most practical portable range finder and having a limited number in the hands of troops for trial and report.

ORGANIZATION FOR MILITARY TELEGRAPHING IN THE FIELD.

By LOUIS ZERLIN.
Translated from the "Armée et Marine" February 14, 1904, by X. Y. Z.

THE extremely important rôle that telegraph lines and railroads will play in the next war is not taken into consideration by many people. It might be, therefore, interesting to examine the recent organization of the telegraph service in the army.

A summary review of the general history of the subject, not considering visual signaling, by means of which a message may be transmitted from one end of France to the other in less than one-half hour, is as follows:

The first application of telegraphing in the field was made use of during the Crimean War, a telegraph line being built from Bucharest to Varna. Afterwards a submarine cable was laid under the Black Sea, across Austria and connecting the headquarters of operations with the headquarters of the army in France.

During the Kabylie expedition in 1857 the general headquarters of the expedition was kept in constant communication with the base of operations by means of a wire strung on trees or buried. The same method was pursued in 1859 when for the first time the corps of the army was able to communicate with the home headquarters of the army, although the service was not entirely without interruption.

Up to this date the service was performed under the direction of civilians. It was not until the War of Secession (1861–5) that a strictly military signal corps was first organized.

Prussia, during the wars of Denmark and Austria, followed the same example, organized and put into effect a signal corps as a branch of the army.

Following these wars all the great powers organized a special permanent military signal corps, nearly all of them placing the new corps under the jurisdiction of the engineers.

France, however, in 1870 organized one complete company, but placed it under civilian administration. After the War of 1870 France organized a Signal Corps, but the personnel was furnished by the administration of posts and telegraphs, furnishing a telegraph service for the army (first and second line and parks) and the service for the territories. The law of July 24, 1900, organized this service upon an entirely new basis. It created a battalion of telegraph operators consisting of six companies (Mont Valerien). The duties for this service were finally regulated by the Provisional Instruction of August 4, 1902, and the decree of January 3, 1903, and was made a part of the organization of the army, its object being that the head of the army may be placed in communication with (1) army headquarters, (2) the wings of the army, (3) security service, (4) the rear of the army, and (5) the corps commander.

The chief of staff issues the necessary instructions for the government and duties of the telegraph system of the army, the supreme authority and supervision of this service being vested in him.

The telegraph service of the army embraces a first line installed and operated in each army corps by a company of telegraph operators; a second line installed and operated by the technical sections. The limit between these two sections is fixed by the commanding officer of the army. The first line establishes and maintains, as far in advance as possible and in the direction of the line of advance, one or more telegraph stations designated as "centers of information," in order that all the information collected by the cavalry scouts, or by other means, can be forwarded by telegraph. This line should connect with the various places designated by the commanding officer for the best interests of each day. The principal of these places being the station of the general headquarters of the army, the center of this line. The superintendent of this line is a field officer of engineers whose station is near at hand to the chief of staff. He makes the necessary details for the selection and installing of the line from the companies of telegraph operators, dividing them into six sections, each accompanied by their supply

trains, and also for the engineers' telegraph detachment. To-day this detachment is the main source of supply for this service.

The section that can be economically divided into two working parties is used as the main erecting party. They are equipped with a small supply of tools and material for the use of repairs of already existing lines which may have been destroyed by the enemy, or for the construction of new lines. These repairs and new work are to be made by means of a field cable, a properly insulated wire.

The main supply train for these companies carries, in addition to other material, more than 200 kilometers of wire.

The superintendent details for each section the necessary number of wagons.

Each section has six especially constructed wagons as follows:

1st. A telegraph wagon, a telegraph office on wheels, equipped with the necessary apparatus for the simultaneous transmittal and receipt of messages from four different directions.

3d. Two work wagons, containing all the material necessary for installation and repairs.

3d. Two light wagons, constructed for the rapid conveyance of men and material necessary for the installation of an office. These five wagons are sufficient for the transportation of the personnel of a section and permit rapid movements for important trips. A study is now being made for substituting traction engines in the place of horses.

4th. The last is a reel wagon of two wheels which allows the work to be carried on in narrow roads or across country.

In addition to the above each section is supplied with four army bicycles, which carry a telephone, a hook pole, a field pole and 500 meters of light wire. These machines are particularly convenient for testing lines.

The companies, being organized as above stated, are in a condition to operate with great rapidity. Three kilometers per hour may be built by stringing the lines on trees or by other temporary means. If necessary the construction can

be carried on with sufficient rapidity to keep up with the march of the column by simply laying the wire on the ground, and, if necessary, raising it only over road crossings or other obstacles. The speed may be further increased by starting the line at two different points, or from several different sections.

In order that the material may be economized, each day as early as possible, upon the arrival at the end of the day's march, communications are established between the general headquarters or certain points of the army's line with all army corps' headquarters or centers of information. The old stations are then disconnected and the instruments and material are turned over to be used on the second line. By this method communication is cut off and put in service again each marching day. In certain cases, for example, upon the approach of the enemy, it is necessary that the means of communication be uninterrupted. Each army corps of the first line carries with it a section which operates, for example, between the advance guard and the head of the column, laying the wire without interruption during the march, and establishing from place to place temporary stations.

The details of the technical sections of the second line are responsible for the making of connections between the main headquarters and the base of supplies, and attend to all lines in the rear and in the territory.

The technical sections follow immediately the army, relieving, in all the stations, the personnel of the first line. If so desired, the temporary lines are taken up and sent to the front and are replaced by permanent lines.

In addition to the above organization, each cavalry brigade has a light wagon, containing material and four telegraphers for each regiment. They are used in repairing lines and laying the short sections necessary for communication with the centers of information established by the army.

If the distances are too great or the neighborhood not safe, the cavalry places itself in communication with headquarters by various means, such as automobile bicycles, horses, signaling, or even carrier pigeons.

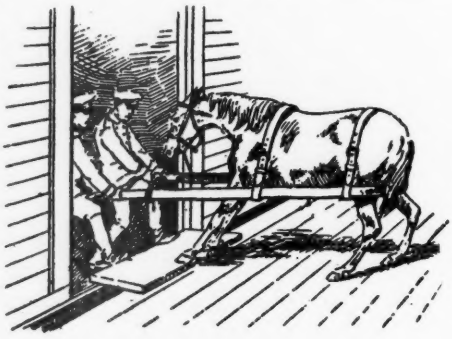
METHOD OF EMBARKING OR ENTRAINING HORSES.

TRANSLATED BY COLONEL A. H. B. PHILLPOTTS, R. H. A.

[From "*Journal Royal Service Institution.*"]

DESCRIPTION of a method suggested by Captain Bakevitch of the Russian army for embarking or entraining horses that are difficult to get into the ship or train:

The apparatus consists of a strong breeching made of webbing, which passes around the animal's quarters and is supported by two straps passing, one over the withers and one over the croup. The ends of the breeching are continued to the front so that two or four men can haul onto them and so force the horse into the box or through the opening in the ship's side. There are two rings on the front part of the breeching to which the head rope or reins can be fixed to keep the horse's head down.



The apparatus here described seems to be an improvement on the ordinary rope, as it cannot slip down, does not cut the horse, and by its use the horse can be guided into the box, etc.

The attached sketch describes the gear.

COPY OF A LETTER FROM THE RUSSIAN GENERAL SKOBELEFF TO HIS FRIEND, GENERAL STROUKOFF, WRITTEN AT THE CLOSE OF THE RUSSO-TURKISH WAR.

TRANSLATED FROM THE FRENCH,
BY CAPTAIN C. D. RHODES, GENERAL STAFF.

THE following interesting letter from General Skobeleff to his friend, General Stroukoff, has recently come to light in Russia, and has been forwarded to the General Staff by the United States military attaché at St. Petersburg. It was written at the close of the Russo-Turkish War from the Russian bivouac near Karamanli, and is of interest on account of the writer's decided opinions as to the shortcomings of the Russian cavalry, and the true role of cavalry in wars of the future.

General Michel Skobeleff, one of Russia's greatest generals and a most remarkable man of his time, was born in 1844. His military career was almost entirely self-made, a difficult undertaking in a country where birth counts for so much. He served with distinction in the expedition against Khiva in 1874, and against Khokand in 1875, and was conspicuous for personal gallantry as well as for military ability of a high order. He was refused a command at the outbreak of the Russo-Turkish War, but entered upon the campaign as a volunteer, and crossed the Danube carrying a rifle on his shoulder. But his genius could not long remain hidden, and he quickly rose to high rank. As a general officer before Plevna he did brilliant work, and has been compared to Napoleon in being able to rouse his soldiers to the highest degree of enthusiasm. At the taking of Adrianople, he was for pushing on to Constantinople, and submitted plans for a further campaign; but his advice was not followed by the Russian government, much to his disappointment and regret.

After the Russo-Turkish War, Skobeleff was made commander in chief of the Geok-Tepe expedition, and conquered the Tekke-Turkomans in 1881.

He died at Moscow on the 7th of July, 1882.

TRANSLATOR.

"*My Dear Alexander Petrovitch:*

"I thank you a thousand times for your good letter, coming straight from the heart. It has not astonished me, but has deeply pleased me, coming from one who, since the last war, I have been accustomed to consider as my devoted friend; from Parapane to Tchataldje and in that brilliant military future of which I personally, for the good of our poor cavalry, was at one time blind.

"I have said 'our poor cavalry' with a feeling of profound respect and love for the material of our regular cavalry. It is you who have awakened in me this sentiment by proving to me with the never to be forgotten regiments of the First Cavalry Division what can be accomplished with Russian regular cavalry. But everything requires a leader, and it is indeed a fact that I have seen few leaders during this last war. Believe me, my dear Alexander Petrovitch, that the question of the immediate creation of good leaders for cavalry fighting is more urgent for the Russian army than any other. What would have become of us in Turkey the past summer if the cavalry of Sultan Mahmud were resuscitated? In a war with Austria, or even with England, the lack of knowledge of the employment of cavalry might truly cause the loss of the campaign. In our day more than in the time of Zeidlitz and of Murat, the rôle of the cavalry is entirely that of *offensive élan*. It is precisely for this end that the carbine has been furnished, and not that the cavalry may modestly fight dismounted within sight of its infantry, as has happened only too often.

"In keeping itself as much as possible in touch with the main body of the enemy, good cavalry indefatigably seeks opportunity for turning one of the active flanks of the hostile

army, or even of the rear guard, and for giving it a decisive check, at the same time permitting it the least possible knowledge of its own plans. Nowhere is experience so valuable as in the cavalry.

"At the beginning of the present century they called the cavalry *the arm of surprises and flanking movements.* What is to be said of it now? As a matter of fact our cavalry ought to be prepared to play a very important rôle in a European war, if such takes place. It should by its qualities forcibly influence the strategical and tactical decisions of the commander in chief. I may even say that it should influence the *logique of the entire campaign.*

"The generals who will be called upon to direct the movements of the cavalry, ought, in addition to having an intimate knowledge of military science in its entirety, to have *the military eye*, and the faculty of drawing conclusions in any situation and under any condition. They should be endowed with limitless activity, and more especially should possess the character, the gift of instant decision as to the assumption of responsibility. These are exceptional qualities and—shall I say it—are neither the qualities of the riding hall nor of the reviewing stand. That is why the army should cherish those who answer to the ideal that I have just described; those who have performed legendary exploits in the heart of a rigorous winter, a hundred *versts* distant from their infantry, during those famous days when there hung in the balance the honor of the standards entrusted to them, the lives of hundreds of heroes, and finally the irrevocable risk of losing or maintaining their own military reputations. Envy alone can obscure the reputations of such men.

"Receive my sincere congratulations on the occasion of the gift which the Emperor has bestowed upon you—a sword set with diamonds. It will be for you an agreeable souvenir and as for me, I see in it a proof that His Majesty understands and appreciates you. Give me news of yourself in detail, and of many things in general. I have already turned over the command of my corps to General Verefkine; everything is in order. You know that I love the service,

and that I do not permit myself to have pretentions. I execute orders, that is all.

"I clasp you cordially by the hand.

"Your devoted,

MICHEL SKOBELEFF.

"Bivouac near Karamanli. Ss. V. 1878."

THE UNITED STATES CAVALRY HORSE.

BY WILLIAM P. HILL, VETERINARIAN TWELFTH CAVALRY.

I THINK all cavalry officers will agree with me when I say, "The American horse furnished to the United States cavalry is underbred and in no way a typical cavalry horse, and not to be compared to the German and English mounts."

The price paid is far too small to obtain anything like a fine animal; $120 the average amount, buys exactly the horse we now get; he is perhaps sound in wind and limb, but style and good conformation he seldom has. How often you can walk down the picket line of a troop and pick out perhaps a dozen that would look better hitched to a wagon; heavy-boned, big headed, sharp hipped, coarse bred plugs. This is not a reflection on the buyer, but on the small price the buyer is limited to.

The horse required for really efficient cavalry service cannot be bought under $200. He brings this price at five years old readily in the open market. We cannot expect to buy good cavalry horses in States where perhaps there is not a single fine saddle stallion. The trotting horse has come so much to the fore lately that his get for saddle purposes is useless, and where crossed on an ordinary farm mare, we get a straight necked, sloping hipped, nondescript. This mixture of blood produces all kinds of different traits in the colts. Some with bad feet, misshapen, brittle or too soft, bad

tempers, bolters, or the reverse animals that are slouchy and dull—sway back, too high at the withers and all the ill results of haphazard breeding.

My idea of a cavalry horse is what in fox hunting circles is called the "weight carrying hunter." He has plenty of size combined with thoroughbred blood. He is up to heavy weights with strong hind quarters, yet full of nerve and energy, carrying a heavy weight across country, mostly at a gallop, for hours.

This animal, of course, would be hard to get for our cavalry unless we had government farms for the purpose, but if the government would buy about fifty large thoroughbred stallions and place them through the different horse breeding States and take options on the colts until fit for cavalry breaking, this would surely be a big step in the improvement of our cavalry horse, and in course of time have a very visible effect on the general and individual appearance of our horses.

THE NEW BRITISH CAVALRY SABER.

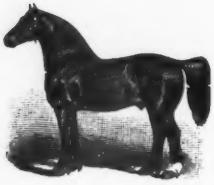
TRANSLATED FROM "LA FRANCE MILITAIRE,"
BY CAPTAIN C. D. RHODES, GENERAL STAFF, UNITED STATES ARMY.

THE technical cavalry commission presided over by Sir John French, has just adopted after a long series of comparative studies a new saber, absolutely straight, intended to replace the curved saber, almost universally used up to the present time by all cavalry troops.

This radical change has been recognized as imperative by the British military authorities, in the light of the experiences of the war in the Transvaal; and in addition, is in keeping with the important modifications brought about during recent years in infantry tactics.

The new arm, much lighter than that which is still in use on the other side of the Channel, weighs only 945 grammes. Its length, not including the point, is exactly eighty seven and one-half centimeters. The blade, which measures almost two centimeters in width, terminates in a very long sharp point (375 millimeters).

Three regiments of cavalry have recently been provided with this saber, and will make some trials of it on the maneuver grounds of Aldershot and Curragh.



Reprints and Translations.

THE BRITISH CAVALRY AND THE LESSONS OF 1899 TO 1902.

By "A COLONIAL.'

[From the *United Service Magazine*, July, 1904.]

HAVING served in Irregular Corps throughout the late war, brigaded on several occasions with regular cavalry, I did not fail to notice, like many others, their shortcomings, especially in the early stages, whilst, of course, admiring their many good qualities. Their weak points may be roughly enumerated as follows:

1. Indifferent knowledge of scouting.
2. Studied dislike to acting on foot with the rifle.
3. Lack of being able to utilize ground for taking cover, or concealing their movements.
4. Bad quality of their mounts.
5. Excessive weight carried by the horse.
6. Bad shooting.
7. Want of individuality, thus preventing men from making use of their own heads.

Many of these weaknesses were soon rectified, and some regiments, commanded by large-minded men, learnt by bitter experience to be nearly as good as their enemy.

Few cavalry officers, I feel sure, will disagree with me over these points, so I hope, therefore, to give as briefly as possible my personal observations during the past nine months as to what steps are being taken to improve matters. Last summer, some fourteen months after peace, I rode down

from Johannesburg to have a look at the cavalry concentrated at Klip River Camp for drills. My arrival was a bit early for them, so saw men and horses in the lines. From a spectator's point of view, things looked very pretty, with whitewashed stones marking the roads and the boundaries of regimental camps; but from a campaigner's point of view from the small space allotted to regiments, and the way horses and men were crowded together, it appeared as if there was still a doubt whether the country was ours. I heard later it had been laid out by an infantry officer. On learning that the cavalry were shortly starting out for work, I off-saddled for a small feed. Soon the regiments, all of which had taken part in the war, filed past me on their way to a plain east of the railway and west of the Zuikerboosch Rand.

I overtook them later, and found them crowded together in what was called "preparatory formation." I watched a small squadron gallop to the front, and hoped to see how the scouting was carried out, but they never opened! I afterwards found it was the General and his staff.

Soon the mass began to trot, and after going about one and a half miles, I saw three lines of flags coming towards them. The Royal Horse Artillery came into action, and then there was a wonderful advance at a gallop, ending in a charge over ant-heaps and ant-bear holes into the flagged people. I remarked to a non-commissioned officer near that this flagged enemy did not attempt to maneuver to outflank the cavalry, and he replied, "Of course not, the General commands them also," and woe betide them if they don't carry out his orders to the letter of the law.

I rode away in disgust; I had seen enough; but knowing their General had not distinguished himself as a cavalry leader in the war, but as a town commandant, I was not surprised; all generals of distinction having gone home to occupy fat billets.

I saw later in the papers that the local Boers had been entertained at luncheon, and that they had expressed their pleasure at all they had seen. No wonder! for how they must have grinned from behind their kopjes at the easier task which the future seemed to have in store for them.

This spring I came to England, partly on business and partly on pleasure bound. Soon after my arrival in London I met several cavalry officers whom I had met during the war, and I was surprised to learn from them "that if a squadron leader wished to get on now, spit and polish, knee-to-knee close drill, and a studious avoidance of useful dismounted work, was the way to do it. On the other hand, if he studied individuality, Boer tactics, mounted or dismounted, concealed outposts, common-sense ideas in combination with sufficient close cavalry drill, he was at once classed as a —— mounted infantryman, and thus a marked man."

I further gathered that the cavalry was divided into two schools, the one, those who totally disregarded the lessons of the war and were anxious to return as quickly as possible to what obtained in '99; the other were what might be termed progressive, viz: those who wish to see the cavalry the handy man of the army, a good shot, a good scout, a good horseman, capable of beating a mounted infantryman on a horse, and yet being able to act on his feet equally as well, but fully recognizing that in addition to these things, cavalry must be able to gallop and drill in close formation, and charge home with a sword when opportunity offers.

I decided to pay an early visit to Aldershot, the seat of all learning, where most of the generals who escaped the heavy sword of Stellenbosch, either by luck or by the premature ending of the war, are congregated, to see for myself how the cavalry were being trained under their eagle eyes.

One fine morning I hired a local horse and rode out to what they call the Long Valley. Possibly it is a long valley as far as Aldershot is concerned, but not in accordance with South African views of one. I found it about half a mile long by half a mile wide. There is a good deal of useful ground southeast towards the town, but that apparently was kept for military police to ride about on, at least, judging by the fierce way they ordered me off. Well, on this drill ground proper I found cavalry, infantry, artillery, yeomanry officers, and men driving in boats on wagons, in fact the whole place was scattered over by people moving in every direction like a lot of ants. If I had taken up a position anywhere, I could not

have swung a cat without hitting a foot soldier, a horse or a gun. However, here I was in the midst of the cavalry, doing their short squadron training under the squadron leaders, supervised, no doubt, by many cocked hats. I saw one or two but I don't know who they were. I recognized at once my friend, the same old troop horse, made in England, that we saw so much of during the war, viz.: the heavy, big-footed, bad-shouldered, common brute, who died, at the thought of a long trek, and the long-backed, weedy misfit which the dealers sold at such handsome profits! Not the little short-legged horse the officers used to swear by for work in the war.

The men were still seated on the same old saddle, right away from their horses, instead of on the Colonial saddle we hoped we had converted them to (I believe the officers still use them). Slung to the saddle was the same old heavy sword with bright steel scabbard, which we saw bent and rusty in war. Some troops were tent-pegging and playing what looked like mounted hockey on their clumsy beasts, endeavoring, I presume, to make them as handy as polo ponies and as clever as hunters, as is now being quoted. I pity the man's neck who hunts or plays polo on one.

Some troops were trotting about doing close drill, and occasionally dismounting from their horses on the tops of the hills and falling in in front of them with their rifles, whilst others dismounted under cover, then walked up on to the skyline and leisurely lay down; but when the order to mount was given, they all stood up and ran back to their horses. All ideas of taking cover or concealing their movements seemed to be forgotten. I may remark that these men wore pipe-clayed rifle slings to make them more conspicuous. I ventured to remark to a nice-looking lad near me, as to whether they had not received the new short rifle I heard was being introduced. Fancy my astonishment when he replied: "Don't talk about rifles; we have not shot a course since peace."

I saw also other troops galloping about with swords drawn, charging space. The little scouting I saw consisted of men riding on the skylines, looking like Nelson on his monument.

As every one went home about 11 A. M., I returned to London a wiser and sadder man.

Having seen in the papers that his Majesty the King was visiting Aldershot to watch the field training of the Army Corps, and having heard with amazement that the cavalry were rehearsing their *rôle*, I decided to pay a second visit on that day to see what was considered up to date. I went out to the Long Valley, and was soon attracted towards several cavalry regiments and artillery, formed up in line behind a hill at the south end of the ground. Then suddenly, I presume, when his Majesty arrived, out went one regiment, due north, not preceded by scouts, and without flankers, down into the flat where some flags were advancing, and then charged and disappeared behind a hill west. Then, under the roar of the artillery in action, the rest of the regiments advanced in the same direction in a beautiful line, also without scouts, flankers, supports or reserves, much less rear guard, and leaving the guns without an escort. Fancy what an ignoramus any Colonial would have been considered had he forgotton one of these items in war. Well, this line swept forward, first at a trot, then a gallop, and finally charged the same flags at the same spot. When they had pulled up their horses, which took some time, they retired from both flanks, joined by the first regiment that went forth, back to behind the same hill I found them at, where they faced about and dressed on markers in one long line. I wondered what was going to happen — possibly a march past; but no, they were about to make another charge in line, the whole lot this time.

This system of dressing on markers before a charge is strange. I remember reading, as a boy, that it was done by the heavy cavalry at Balaklava. One of these regiments may have been there, and the old tradition is possibly adhered to by all out of compliment. Well, this long line moved forward and charged the flags at the same place as the preceding charges. I afterwards learnt that the King was seated in a tent overlooking this spot.

Cavalry charges, I always thought, were made like stone walls, knee to knee, and that this was so hard to do that the

cavalry was always practicing it; but those I saw had a depth of 150 yards, wide intervals between men, and some of them may still be galloping, as far as I could see.

Had this display taken place at the Agricultural Hall, or at the Crystal Palace, one could have understood it; but having seen in the papers, both before and after, that his Majesty and the new Inspector of the Forces were witnessing the field training of the Army Corps, and that this was part of a tactical field day, I could not help thinking, "C'est magnifique mais ce n'est pas la guerre."

The cavalry then disappeared, I believe, to continue the field day; but when next I saw them, the battle being at its height, and the infantry attack being pushed home, they were lining the plain for the King's motor to pass through.

I dare say I have now opened your eyes as wide as mine as to how the cavalry have profited by the lessons of the war; and, in conclusion, may I, as a poor humble Colonial, with the best interests of old England at heart, offer them a little advice, which is: learn to scout, shoot, take cover, and conceal yourselves, and to fight in your own enclosed country before you assemble on Long Valleys or other plains to practice tomfoolery, if you don't want to spend another 200 millions to learn a second time your faults.

REPLY TO "A COLONIAL."

By "ONE OF THE OLD SCHOOL."

[From the *United Service Magazine*, August, 1904.]

I HAVE been a good deal amused by the article in your magazine, July number, entitled "The British Cavalry and the Lessons of 1899 to 1902," where "A Colonial" tries to teach his grandmother. If you can spare the space I should like to offer a few criticisms.

1. With regard to the seven weak points enumerated, every one knows that, as far as the Boer campaign is con-

cerned, they existed; our cavalry has never been and is not now being, trained to fight farmers, natives, or such like, but to meet continental armies, should ever our politicians bungle us into a war with them. With our strength, money and resources, we can always, at the last moment, adapt ourselves to anything, and learn our lessons as we did in South Africa, and on many other occasions. Our army of recent years has been "made in Germany," and is yearly kept up-to-date by able officers who attend German maneuvers. The latest reform is that excellent hat, erroneously called the "Brodrick hat," which was, I believe, the outcome of the visit of the Secretary of State for War, Commander-in-Chief, etc., after peace was declared.

2. "A Colonial" criticises the cavalry maneuvers at Klip River, conducted by a dashing cavalry officer, whom he sneers at as having commanded a town during the late war. Many cavalry generals and C. O.'s commanded towns and block-house lines, in order, I believe, to vary their experiences of war, to improve their training, and, lastly, to give the younger men a chance of leading columns and regiments. I feel quite sure that the gallant officer in question would have led charges in Natal with great *élan* had it not been for the dongas, kopjes and Boers.

3. The next allegation that our cavalry is divided into two schools, viz.: the progressives, as "A Colonial" styles them, *versus* those who adhere to the old traditions.

Thank goodness these new ideas are confined to squadron leaders and subalterns. Our cavalry generals and some C. O.'s still believe in the cavalry charge; they have no fear of the rifle, and I feel confident that they, especially the gallant G.O.C. Cavalry Brigade, Aldershot, would charge unbroken infantry with a *sang froid* as great as that which was, I hear, displayed by the latter officer when he encountered blank ammunition at close range in the recent cavalry reconnaissance.

4. "A Colonial" sneers at the short squadron training. He apparently does not know that in our army we begin at the top and work downwards in our training. The G. O. C. instructs the C. O., and the C. O. the squadron, and so on. We don't start at the bottom, as our squadron leaders lack expe-

rience, and, besides, the generals and C. O.'s would have nothing to do but inspect. We do not possess highly trained officers like the Germans.

5. "A Colonial" calls the troop horse "big-footed, heavy," etc. I feel sure most senior officers like a big horse, so long as he is fat. What idiots we should look on ceremonial parades in full dress, mounted on the small horses he suggests! Again, the big-headed horses are invaluable in a charge, as their heads act as battering-rams against the smaller ones of the better bred class.

6. *The Saddle.*—The present pattern is used almost universally in continental armies; and I should like to know how we could have carried all the kit we did in South Africa without it. The front arch must necessarily be high to give the bad riders, of whom we have many, something to hold on to when a horse travels at speed; and, secondly, it must have a high cantle to enable men to mount easily and carry a lot of kit.

7. *The Sword.*—"A Colonial" laughs at the glittering scabbard. Of course he does not know that we colored them khaki when we went to South Africa. In peace it must glitter, and we must have noticeable things like pipe-clayed bandoliers, etc., or else it would take opposing cavalry a long time to find us. In like manner, artillery uses black powder to mark the position, or else no one would know where they were.

8. *Taking Cover and Concealing Movements.*—Of course we train our people to have contempt for cover and bullets; how else could we persuade them in war to face the rifle at a gallop? Why, they would all want to go to ground behind rocks and kopjes!

9. The cavalry display before the King appears to have displeased "A Colonial," who forgets that ours is a voluntary army and generally plays at soldiering, and that unless we have these shows we cannot get recruits. Who knows how many would-be fathers, or young lads, witnessed those charges?

10. Lastly, "A Colonial" shows complete ignorance when he criticises cavalry maneuvering without scouts, flankers

or rear-guard. Our cavalry never have such things when in brigade or large bodies—with the object, I always learnt, of inducing the enemy or opposing force to come boldly up and surprise them. Every cavalry officer of standing knows that from General Luck downwards, all inspecting officers chiefly examine C. O.'s and squadron leaders in what they would do if suddenly attacked; and troops three-quarter right or left-about wheel was invented for the purpose. Another favorite question is: "If coming through a defile in sections and suddenly attacked, how would you form to repel it?"*

Again, reconnaisance schemes are only carried out to practice officers in writing reports, and to see how quickly they can be transmitted to the G. O. C. No one cares how the scouting is done, nor has a chance of seeing.

To conclude, I would give "A Colonial" a little advice, viz.: take care when the next war comes, you have an imperial officer as your colonel, and don't officer your corps with all your relations, but select men of experience—for example, myself.

* There is but one other British examination question with which I am acquainted that can compare with the absurdity of this. My example is as follows: "Why do troops now advance to the attack in extended order instead of in quarter-columns?" A militia subaltern, in reply to this question, wrote: "Because if they were to advance in quarter-column it is probable that they would all be killed." It is a pity that this wise young officer was not also called upon to answer the question quoted by "One of the Old School;" he would probably have written: "It would depend upon whether the shortest way to more favorable ground was to the front or to the rear."—EDITOR U. S. M.

THE CAVALRY OF THE FUTURE.

TRANSLATED FROM THE "REVUE DE CAVALERIE,"
BY CAPTAIN J. W. HEARD, THIRD CAVALRY, FOR THE SECOND DIVISION GENERAL STAFF UNITED STATES ARMY.

UNDER this pretentious title do not expect a description of a steel horse, swift as electricity, moving on thousands of unbreakable legs, and mounted by an ironbarbed automaton accurately spitting forth thousands of projectiles; neither expect a monstrous ballet, danced in echelon by a collection of phenomenal horsemen, and a divulging of the secret of victory discovered by a new geometrical formation.

The cavalry of to-morrow, I believe, will very much resemble that of to day and of yesterday. The horse, its distinctive feature, will probably have more blood, and will not be so heavily loaded. The man who rides him will be less of a military machine than at present; that is, he will be less molded into one shape, more thoughtful, more individual, more difficult to command, if it be desired to align him in a troop. He will know the value of his gun and how to use it; he will have a dart which will enable him, like a wasp, to free himself from difficulties near by, and finally he will be bound to his comrades by the sentiment of the command.

This is a very nebular psychological case which I will try to explain. Without pretending to read the soul or the human instinct like a book it can, I believe, be positively stated that the secret of future victory lies in the community of thought and in the moral tie which binds every individual energy and action towards the same aim. It is a new spirit with which we must become acquainted. The present arms are of such effect and precision that they produce, when well handled, unthought of results. But for this, they must be in hands of men of perfect individuality, cool and brave, as indicated by the word, a correct translation of the Latin word Vir—a man.

It is not by preparing figureheads or by killing the individuality, by exercises in confusing gatherings on the drill ground, that we can prepare horsemen to play their rôle in war, spending their energy and risking life for the common end.

This study will be divided into three parts:

Organization and armament of the cavalry.

Its instruction.

Its employment.

All of these are military problems. The use that we can make of a soldier depends upon his moral and physical qualities, upon his arms, and above all whether he knows how to use them, upon his equipment and his food supply; or to sum up, in the moment of action upon his capacity of "can and will."

The regiment is the organization unit of cavalry. The cavalry brigades, divisions and corps, if we are afflicted with enlarged ideas, can be established at the moment of use. They exist with difficulty when assembled for any considerable length of time, and their employment in mass is rare.

The destruction of the French cavalry in 1812 was caused quite as much by its premature organization into corps at the beginning of the campaign and the consequent difficulty of its subsistence, as by everything it suffered during the war.

I shall stir up many contradictions. There are too many officers in a regiment of cavalry. A commandant, a second in command, five captains, three officers and an adjutant for each squadron, an instructor, a captain treasurer-major, an officer of equipment, an assistant to the treasurer, and a standard bearer, with the proper number of sergeants and corporals are ample. Then the officers' positions will not interfere with each other, and sinecures will not exist. The necessity of having squadron chiefs, and of discovering important rôles in the demi-regiment, has been well proclaimed, but that does not prevent the chief of squadron, different from the infantry chief of battalion, from being a useless gear, who only cumbers the regiment. When circumstances call the demi-regiment into existence, the senior captain can

take command in absence of the colonel or of his second. The captain-treasurer can easily fill the position of the treasurer-major in addition to his own duty. He has an adjutant and plenty of clerks. The colonel is absolutely in charge of the administration of the regiment. The intendant supervises the accountability and prevents infringements of regulations.

It is claimed that more officers are needed to make reconnaissances. The maneuvers prove that there never are enough, and the example set by them must not be followed. If in war time we should employ officers in this fashion, France could never produce a sufficient number. An officer should not be given a mission in which his platoon or his entire squadron does not participate. He may be temporarily detached with a few men, but never permanently.

The fifth squadron must be complete, the feeder and the resource of the others, which make up from it, their effectives in time of war. The organizations remaining in the fifth squadron after the mobilization of the regiment, can serve for the first reserve formations.

How to complete these formations? The General Staff pertaining to the cavalry, which must be formed so that vacancies will not exist in the reduced regiments, will, with the officers of the reserve, be sufficient. The reserve regiments are mobilized by squadrons, of which only a certain number go with the infantry divisions. This will give the time and the elements necessary for their successive organization. To sum up, it would seem to be sufficient to place the regiment on a peace footing, with its war strength of officers, at least equal to regiments in the corps.

But what about progress? There is a custom in the French army which confuses command and rank; why not give the rank, when the position has been well filled, and we can be sure of not prolonging the military life of a man incapable or played out. What disgrace would there be for a general to command a regiment? He would wear himself out less than in his sinecure position during peace. Why cannot a good captain act as a chef d'escadron, and the treasurer as a higher officer?

There is certainly material and even moral reorganization in these ideas; the number of stripes, derived from well rendered service, does not forcibly imply the right nor the capacity of high command.

ARMAMENT OF THE CAVALRY.

The Horse.—He is good; continually improve him, for the breed quickly deteriorates if not properly kept up; develop, train, inspire him and lighten his burden as much as possible. Seek medium sizes, leaving the giants for trade. Continue to mount regiments uniformly, like the cuirassiers, dragoons and chasseurs at present, in order that we may utilize the resources of our national production and get together horses of the same gait and temperament. But the armament, accoutrement and employment must be made uniform, in principle at least, for coats of different colors may be permitted in order to develop emulation and preserve esprit de corps, which has its worth.

The Soldier.—He is generally good. We should choose him tall enough, but light and slender, even of a delicate appearance, sufficiently well informed, and above all, physically and intellectually quick. The enlistment is well made; we have only to keep him in the path.

The Rifle.—What can we ask better than the point blank at 800 metres, which the "D" bullet gives? The practical limit for firing a gun is the limit of clear sight. The number of cartridges carried is not enough. The horseman will often use his rifle a long ways away from the ammunition sections in front or on the flank of a deployed army, away from the artillery group and the cartridge caissons, which drag along. He must be able to use his carbine to its full effect, *i. e.*,to shoot well and fast if the occasion demands.

The Revolver.—In spite of all deductions concerning its employment during the War of Secession at short range, in the mêlée, it will never be worth the saber point, except to insure suicide. Keep it for officers and N. C. O.'s. It is a baton of magical command. Those who use it should be excellent shots, and should command on the line by their presence and

example. As soon as there is fighting on foot, a carbine will be found.

The Saber.—The man is not yet made to charge shaken troops with the horse as his sole weapon. He must have something in his hand. Perhaps in several generations more this instinct will be changed, and the charge made, revolver in fist. To-day it is still only a theory, psychologically inapplicable. But the length and point being sufficient, we may diminish the weight of the saber. The saber-exercise, everywhere now taught, is only time lost. The classical mêlée is only possible on a field where two bodies of cavalry are isolated, and further, where no part of either has the idea of fighting on foot or firing into the confusion, in order to disentangle it in any sense, and even then the horse brings the solution. All this does not mean that when you have plenty of time, as is the case with officers, reënlisted men, and certain soldiers of three or four years' service, it is not beneficial to drill in the saber exercises on foot and on horseback. Every sport is useful to develop the soldier, his confidence in himself, his hardihood, his bearing; but with our reduced time of service, for the majority we must stick to what is necessary and not waste time upon exercises, the whole result and utility of which are only approximate in war.

The Lance.—In your office, with your feet on the andirons, its qualities cannot be doubted. It is the ideal arm for the merry-go-round; it is charming with its streamers, on parade. In the time of Marshal Saxe it was beyond discussion the queen of arms. Marmot cites an example at the battle of Dresden, where it alone was able to break a square of infantry, whose powder was wet, and whose bayonets kept sabers away. To-day, its weight, despite all that can be said, causes inconvenience to horsemen, in going everywhere, in dismounting, in holding and leading horses by hand; are these defects compensated for by its undisputed superiority over the saber in a charge or pursuit of a disordered troop, the only case where a charge can be usefully attempted against cavalry as well as infantry? This is the whole problem.

The Cuirass.—It is no longer absolutely bullet-proof. Let the security it affords be replaced by mobility and a utilization of the terrain. In the celebrated classical formula MV^2 the mass is only of the first power, and swiftness is at the square. The element "surprise" has not been put into this formula; it is, however, the source of true superiority, and mobility and lightness only can give it.

The Casque.—It is revived from the Greeks. The Medusa's head which surmounts it was made to terrify the infidels. It is a smotherer of the brain, which it oppresses. We may avoid saber blows by attacking with the point, by parrying or by dodging. The individual combat of the mêlée is a beautiful sight on the drill ground or in the hippodrome. On the field of battle I doubt if soldiers have stomach enough, and I will even say mind enough, to adapt themselves to this sport. If there is a platoon or a squadron left united and commanded, its chief could with a few bullets thrown into the pile, soon end the mêlée and settle the flight and pursuit.

There is then weight in the armament which can be dispensed with. In the clothing, equipment and saddling there is more still. Cavalrymen should be clothed in woolens of not too bright a color, with water-proof cloaks. The too numerous buttons, braids, trimmings and flaps should be diminished. There should be no more time lost in adjusting and putting men in tight clothes which restrict their movements for fear of bursting. Why put weights on men's feet who have to run across country, jump on a horse and be active? With large blouses, big pockets, water-proof linen or woolen leggings on the leg, high shoes, spurs and a felt hat, Louis XIV. style, is how I see the cavalry of the future.

The saddling and packing should be lighter. The saddle is heavy; it would be an advantage to return to girths trimmed with felt and leather with two blankets under the saddle; to replace iron trimmings with aluminium; to cut off all packing not indispensable, the brushes which are only used in cantonments and when there is plenty of time. Necessary material for cleaning and polishing can be found everywhere. Grooming in war is not done the same as groom-

ing in garrison. The curry-comb and a small brush and a wisp of hay or straw are enough. The packing should be flexible enough to put in to it in case of necessity, provisions for two or three days. It is a matter of study before hand, for at the last minute we might not have the necessary inspiration.

All these points are only in the rough, but I believe that it is along these lines that the cavalryman of the future must study and seek the solution. Lightness and ease must prevail over the desire for display. Photographers and artists will lose, yet when the eye becomes accustomed thereto, it will perceive elements of taste and elegance. The spirit of instruction should accompany recruiting necessities and the social methods of the hour. We must not imagine that the decrease in the term of service forbids the idea of making cavalrymen. It can be done in one year if we care to get clear of old formulas, and seek solely to make men capable of using and caring for their arms, horse, rifle and saber, and if we resign ourselves to abandon everything that is merely habit or useless show.

Throw open the regulations to the principles of the different steps. This libretto makes me think we ought to have some celebrated dancing master in order to learn "carry the left forward, toe slightly turned out, ground it." Our parents rewarded our nurses with a gold Louis when we learned to take our first step. This gold piece was thrown out of the windows, for when twenty-one years old we have to begin all over again.

How much time is lost, how much ambition is withered by a too rigid execution of the most trivial rules! The ballets danced by pretty women in pink tights, among electrically lighted flowers are better looking than those danced in the barrack yard, or on the drill ground by badly shaved, badly combed and badly dressed men. There will be work in accustoming ourselves, during indefinitely prolonged periods of peace, in shaping men for war, and yet not lose their time from parades, in developing to the utmost each individuality, permitting it to exist in the assemblage, and in destroying force of habit in the architectural regularity of

troop formations. We can never develop individual instruction too much. We must seek how to make practical horsemen, caring for, mounting and leading docile and well trained horses, knowing how to use their weapons according to circumstances. Avoid making acrobats, circus riders and automatons. In addition to the officers, our sergeants and corporals must absorb these ideas. The examinations which the board makes them undergo periodically are summed up in a certain amount of contortions which they execute and a series of technical words, often ludicrous, which they are taught, parrot like, without understanding. These tedious words seem necessary to sanctify their promotion. Character, simple good sense and personality are the last things considered. Afterwards, we are much astonished that those who have received their grade are incapable of commanding or instructing, and that it is necessary to reduce them when they would have perhaps made excellent soldiers. They know so well their theory and the most complicated words of hippology (without knowing how to apply them), that we are convinced of their intelligence and ability.

The employment of cavalry and its instruction are not the same thing. It is certain, however, that the spirit of instruction influences the usefulness of the arm.

The same cavalry, mediocre under one chief, can almost immediately become very good under another. In addition to natural qualities, it is indispensable that a chief should have the habit and spirit of command. Does the present duty of cavalry generals put them in the necessary condition? They cannot be in it unless kept at the head of a regiment. Experimental practice is continually getting scarcer. Everyone studies to excess the things which can again be studied; but they fail to render a sufficient account of the fact that in the employment of cavalry true tactics do not exist, or at least only momentarily. The past should be studied, but to lose time in regretting it and trying to return to it is contrary to the human intellect, which is pushing always to a change for the better, or what at the present moment we believe to be better. Forward, forward! repeats Bossuet to humanity.

What conclusions are there to draw from what cavalry did in the Transvaal? What conclusions relative to what it can do in our hemisphere? How could the English make reconnaissances with their long lines of deployment, in that unknown country, sparsely inhabited and little cultivated, where their horses could not find nourishment to which they were accustomed? The veldt grass satisfied the Boer ponies, but was not enough for foreign horses.

The British clung to the railroads, to the few routes which served as guiding points, and dared not venture into the open country, where the Boers maneuvered intelligently.

Reconnaissance and exploring are generally made by fighting. Rarely can one man by himself see and render an account. The contact must be made with the rifle, and protected or broken, as circumstances demand. Scouting is the beginning of the battle, and not the base of the plan of campaign, which is fixed beforehand, other things being given, strategy, politics. Cavalry, by its mobility, feels a long way in advance of the uncovered enemy, locates him, attaches itself to him until the arrival of the main body, or breaks off the fight, if necessary.

To demand strategic information of cavalry, is generally to prepare oneself for disappointment. This information is no longer fresh or true when it arrives. The tactical information at the beginning of the battle is different.

How could the English cavalry, instructed and armed, according to Mr. Conan Doyle, like that of Charlemagne, have adapted itself, from day to day, to the necessity to hunt out the wings and the rear of the long lines where the Boers were intrenched, and understand that the latter must be forced out of their holes before being charged?

How could the Boers, ignorant of the discipline of concerted action, of the sentiment of command, have individually guessed what they could have gained, if once, when the English were beaten back in confusion by their fire, they had mounted their horses and pursued to the bitter end? What intuition could have made them come out of their holes and hurl themselves, with mounted groups, upon the retreating

line of fugitives, while the foot groups maintained the advantage already held?

Instruction is the state of mind formed in time of peace, the sentiment of military stability under the same command which can so lead the different groups mutually to aid one another, as to attain the total destruction of the enemy. It is also, as Bonvalot wrote, the national sentiment, life, sufferings and common interest, which develop the spirit of military stability in the fight.

The armies of to-day closely resemble the Boer army. The reserves enter them a great deal with their independence. What influence will the spirit of instruction and the theoretical tendencies of employment have upon individual action?

Who can deny the importance of this action and consequently the influence of instruction and of maneuvers?

And I am wholly convinced that we are here entirely wrong. I am not a believer in those theatrical evolutions where we only seek a training which can be but approximate, and possibly even to the detriment of mobility, and of things unexpected; where masses are made to maneuver when they probably will not maneuver in war. Generals and colonels acquire the custom of having their command always bunched behind them; when in war, if they wish it to render its maximum useful effect, it must be accustomed to act by fractions, coöperating towards a single aim.

This is, in fact, the definition of echelon movement, but not of that which has become a drill arrangement, where everyone regulates himself upon his neighbor and is absolutely tied, and which, contrary to the aim of the regulations, ends in making cavalry stiffer and heavier than it was 200 years ago.

Echelon is not a combat arrangement, but a result of the combat. To attack or to defend, we engage only enough for the thrust or the parry, and according to circumstances the remaining fractions are employed to the last, if necessary, united or separately. But to start to the attack in a previously known echelon, and to march in that formation, closing up the echelons on each other, on their guides, is, near a

well informed and active enemy, to expose them to destruction, without being able to give battle.

The echelon which I mean, platoon, squadron * * * is connected with the others only by the object, which generally at the setting out is some distance away; little by little it draws near and approaches the fractions which are operating against it. At the moment of attack some can be united, but they must not wait for others, and each should do the best it can towards the common end. The chiefs go with an echelon, and according to the result of the combat they act with the nearest united one at the last. How much is unforeseen! Yes, but the secret of victory in the future is in the unforeseen.

The unforeseen, coupled with what I called at the commencement of this study the "sentiment of command" or obedience, (which I should like to see replace the apparent discipline of "Garde à Vous") follows a known and understood plan, simple and without fine phrases, and when one knows his leader, all forces are concentrated on the end in which all live and believe.

What a difference from what was done in the last European wars, and from what we saw done in the maneuvers. From the first day cavalry was massed in united large bodies waiting for the opportunity which never came, and which it should have sought out and created if it wished to escape being forced into a charge where it would be sacrificed—a heroic and useless show. Useless, did I say? Are the most important results worth the dismemberment or the loss of one or two more cavalry divisions, which cost much money and, above all, time to reconstruct? Cavalry can only charge troops shaken and ripe for retreat. Then the horse is the real weapon; it would be useless to put a saber in the trooper's hand, if with the instinct of the horseman, it gave but little aid to his movement and fierceness, if I may use an expression so little in accord with the present benevolent philosophy. The importance of the movement of this cavalry is incalculable, a movement which is not the classic charge of the regulations, but rather a combination

of land slides coming from everywhere, and always following the common prey to the death.

Could Prince Frederic Charles have foreseen this employment of cavalry, when, after 1870, he wrote, that the cavalry of the future would be formed in one rank?

If its objective has not been well shaken up by some other arm of service, the cavalry itself must try to shake it before hurling itself upon it.

It is the utilization of its weapons, combined with its capacity for mobility, which must produce the most numerous and unforeseen results. Some platoon or squadron groups can approach rapidly, to overwhelm in a few seconds an objective point by concentrated fire. But if a false move is made, they either remount or the other fractions mounted and held sheltered in readiness, throw themselves forward like an avalanche. The formation matters little, only the aim of the chief must invariably be understood. Attacks must be made from all sides before the disorganized enemy can recover his self-possession.

The wavering which permits a charge upon cavalry, as well as upon infantry, can be sought in a similar manner. The maneuvering echelon, designed to permit the combat echelon to arrive at the shock, has, in order to fulfill its rôle, different weapons, the effect of which it must utilize, according to the terrain. It must recollect that its principle arm in this endeavor will often be the rifle. Perhaps, also, horse artillery should be used.

This disorder can be strategically produced by operations against the supplies in the rear, the lines of communication, or even solely against the populations of the invaded countries. The customs of this day demand enormous quantities of provisions and ammunition. At the least break in the regularity of their arrivals the masses become demoralized, and cannon and small arms induced to silence, are only encumbering material. This is a use of cavalry which the last wars, except that of Secession in the United States, did not adopt. In the Transvaal, a raid of small extent is cited, from Prinsloo, in rear of Methuen, to the station of Graspan, after the days of Modder River. This little operation meant a great deal to

the English army during the fifteen days of inactivity which followed that series of combats.

In a like manner De Wett speaks in his book, during the operations around Paardeberg, of the seizing of a convoy, which forced Lord Roberts, in order not to be stopped, as did Methuen, to put his army on half rations until the hemming in and capitulation of Cronje. The English army, despite its being accustomed to good living, endured this privation. What an inexhaustible mine in this order of ideas! But to develop it we must know how to march cavalry, how to make it hurry over roads for miles and miles with many columns and overcome the fatigues of long marches. We must know how to make men and horses live, by carrying what is necessary when we cannot live on the country; how to break garrison habits; how to give in the twenty-four hours as much as possible of the indispensable nourishment and repose, by utilizing convenient hours and localities. We must free ourselves from all dead weight, carriages, doctors, veterinarians. We must be well trained and trainable. The cavalry officer who has not passed his life with his horse, whatever be his age or grade, is not capable of commanding in his arm of service. He must live, think, reflect, decide, drink, eat, and even sleep with his horse; and that throughout his whole military life.

To day, when we make fifty kilometres we think we have gone round the world, and we rest, publishing our prowess and photographs in the newspapers. The airs of ballets danced upon neatly swept drill grounds, absorb both time and men. We criticise distances and intervals, which is always easy, since we take as standards the figures imprudently printed in the regulations.

The beautiful maneuvering grounds should be sold and with the proceeds, new terrains, different in soil and appearance, leased for periods of a few days or a few months. But let us have no more classic, beautiful terrains for cavalry, where masses can be made majestically to maneuver. They must be avoided at any price. The more difficult or cut-up a terrain is, the better it is for cavalry. We do not expect to meet upon it, and surprise is introduced with a better

effect. We must hunt for that terrible labyrinth of which Dr. Conan Doyle speaks, and use it against the thoughtless ones who live in it.

This is the cavalry of the future. More cavalry than ever; that is to say, always moving towards a clear aim, arriving when and where it is not expected, producing sudden effects, pursuing or disappearing in order to reappear; executing ever the unforeseen, the unexpected, the impossible, the unimaginable.

This is what we should figure out in our maneuvers in order usefully to prepare ourselves for war. But is it possible? To be sure, up to a certain point, and on condition that the fault-finders are honest and sincere. But we must forsake the daily deification (where work ends towards noon), on an open terrain, around a point where authorities and strangers, peaceful spectators, lunch after the exhibition. Then the cannons thunder, the infantry climbs to the assault, the cavalry charges, and the fairy drama is ended with a flag-waving balloon ascension. What will be the result of victory decreed and of criticism which follows this phantasmagoria?

The battle will be composed of partial combats, often far away and unseen—connected only through the final aim, in which all must coöperate—an aim which must not be chosen at hazard by the director of the maneuvers, but because of its strategic importance. There must be umpires everywhere to judge the performances, and in the evening or the following morning they can sum up the ensemble of the day and draw conclusions—never routine or dogmatic deductions, but only ideas and subjects of discussion.

Originality in the employment of cavalry is a grand quality. All principles and receipts are placed at the service of incapables who ought to go back into the ranks or on the retired list. Cavalry chiefs should be bold and full of new ideas every day. Their spirit must be active and on guard, but not in an office with the feet against a stove. A cavalry officer has no ability who does not pass his life with his horse. The troop sees him, has its eye on him, and understands him instinctively. One thinks of a horseman only

as on horseback, and the ideas which spring up in the rest and ease of an office are not the ideas of a horseman, but of a capitalist, a mathematician or a poet. Poetry is necessary for a horseman, but it is the poetry of motion. He should dream and do superhuman things which later become legendary. Many at thirty years old are incapable, but some remain enthusiastic until death, fools, discussed and ridiculed in time of peace, heroic and invincible in war.

PONY BREEDING IN ENGLAND.

By Chief Veterinarian D. GOLDBECK-DIMIN.
From "Militar-Wochenblatt," No. 110,
Translated by JOHN S. JOHNSTON, 1st Lt. Artillery Corps, U.S.A.

THE greater number of horses in use in England are ponies. From time immemorial the doctors' carts, the milk-wagons, the cabs and other public vehicles have all been drawn by ponies. "Young England" has almost always learned his horsemanship on the back of a pony, not merely on the road, but also in the chase.

The introduction into England of the game of polo gave a marked impetus to the breeding of small horses, which had never fully recovered from the attempt made during the middle ages to suppress it, in an effort to encourage the breeding of heavy horses. This favorite game among horsemen was imported from India. The Mauipurits, from whom the English soldiers learned the game, used ponies twelve hands high. It was introduced into India proper in 1864. (Sir Joseph Fayer, Recollections of My Life, Bartenheim, 1900.) It was first played in England in 1872 by the officers of the Tenth Hussars, who had just returned from India. In the rules of the Indian Polo Association the height of the pony was given as thirteen hands three inches. In England the height was first raised to fourteen hands, and later, as it

was found very difficult to find suitable ponies of this height, to fourteen hands two inches.

From the above rules respecting height it will be seen that the English and German interpretations of the term pony differ considerably. With us, a horse that is fourteen hands, that is, 1.42 m. high, would be called a small horse; no horse over 1 m., or at the most, 1.20 m. high would be called a pony. When speaking of English ponies we always think of the little Shetland ponies, while in reality there are many other good and interesting breeds native to the country. There is still less resemblance between what we understand to be a pony and the English polo pony, an animal fourteen hands two inches high, strongly built, capable of carrying a weight of thirteen stone (a stone equals fourteen pounds), having great endurance, active and obedient, full of life and energy.

In England such ponies are not to be found at all times, and consequently the price of good polo ponies has risen enormously, often exceeding that of good thoroughbreds. The Polo Association consequently took a lively interest in the breeding of ponies, but obviously only in such breeds as were suitable for riding. These hunter-ponies were entered in a separate class in the stud book. The Association unquestionably deserves great credit for the energy with which they labored in the cause; prizes were offered, exhibitions were held, and various other means were resorted to to encourage the breeding of polo ponies.

Following the South African War another interest was brought to bear upon the industry. It had been discovered that the polo pony was the ideal mount for mounted infantry. The reasons for this are so plainly to be seen that it does not seem necessary to set them forth here in any greater detail. The Polo Association went a step farther and was reorganized as the "Polo and Riding Pony Society," established to promote the breeding of ponies for polo, riding and military purposes.

In this way all ponies suitable for riding, including all available breeds, were given the opportunity of entry in a stud book; but no provision whatever was made for the entry

of driving ponies. The only course open to these ponies was to secure entry in the Hackney stud book. So it comes about that Welch ponies may be found entered in entirely different books. No provision was made for a family stud book for the Shetland ponies. The Welch breeders were the first to appreciate this anomaly and to take steps to get up a stud book. The first volume of this book is still incomplete. The breeders of other sections—Dartmoor, Exmoor, New Forest—will certainly follow the example of the Welch breeders within a very short time.

The Polo Association did not take kindly to this idea at first; but it is now believed that it will be to their advantage also, as it will permit the selection of the best specimens of each family for breeding purposes. The production of large numbers of polo ponies and mounts for mounted infantry will then be a much simpler matter than it is at present.

Although almost nothing is known about them, the ponies of England are, perhaps, the most interesting class of horses in existence. Let us consider the New Forest pony. In Hampshire there is an immense tract of land called the New Forest, comprising some 42,000 acres, mostly poor, swampy moorland; this is the common pasture of the "Foresters." Here the ponies are allowed to run at large, the size of the herds depending upon the ability of their owners to care for them during the winter, and ranging in number from 100 or more downward. Since the government collects a "marking" fee of two shillings per head, it takes pains to ascertain the exact number of animals in these herds. The last enumeration showed 3,000 head, of which 1,800 were brood mares. From spring until autumn the ponies are allowed to roam at will, feeding wherever they choose. Each stallion collects and jealously guards his own "harem." Naturally the closest inbreeding is unavoidable. In autumn some 1,800 head are taken up; the rest are allowed to remain at large.

The young animals are practically never caught except when they are to be marked or sold; at all other times they

are allowed to run wild. In the entire community some 2,000 head are used for working or breeding purposes.

The New Forest Association is seeking to improve the breed by introducing genuine black Galloway stallions, imported from Rum Island, on the west coast of Scotland, where they are raised in much the same manner as the New Forest ponies. Excellent results have also been obtained from thoroughbreds, particularly the famous stallion Marske; but the wild ponies do not seem to take kindly to the blooded stallion. If turned loose among them, the wild or half-wild herds will almost always drive him out.

The New Forest pony is rather large, from twelve hands to thirteen hands two inches high. If taken up young and well fed he grows as tall as fourteen hands two inches. Although poor specimens are not rare, the greater part of these ponies are of very good quality. Their hoofs are strong and well formed, their hips are often somewhat sloping, but their hocks are the best one could wish. They are of a great variety of colors, although dark brown or piebald specimens are rare. The large number of dapple grays among them indicates a strain of Arab blood. Their chests are not always broad enough, but their shoulders are strong and well built. A cheerful and contented disposition under all circumstances is one of their characteristic traits. If taken entirely wild, their domestication is never completed until they are thoroughly broken; but this accomplished, they are perfectly good natured and tractable. They are never treacherous.

The ponies of Wales inhabit all the hills and wastes of the twelve counties, so that it is impossible to give any statistical data regarding them. Numerous herds also find their feeding ground in the adjoining sections of Shropshire, Herefordshire and Monmouth. To be sure the shepherds have driven them out of many good pastures, but there still remain many more which the sheep have made "foul," but the ponies find very much to their liking.

An effort is being made to improve the breed by introducing thoroughbred stallions, in particular small Hackneys (Comet, Fireway, Alonzo, The Brave), and occasionally a

right trim Hackney poney is produced. The strong trotters are called cobs.

In making up the stud book in North Wales the following have been fixed upon as typical features of the pony: Height, not over 12.2 hands. Color, dark brown or brown preferred, gray or black admissible, chestnut or piebald not admissible. Action, like that of the hunter; a slinking gait is inadmissible. The pony must move promptly and with life, with free shoulder action, hind legs well bent and hind quarters well drawn under. General characteristics: The pony must display marked pony traits, must unite with a robust constitution that unmistakable spirit which is common among mountain ponies; its whole appearance must indicate life and vigor. Head, small, sharp muzzled and well set on; forehead, wide and tapering toward the nose; nostrils, wide and flexible; eyes, bright, kind, intelligent and expressive; ears, small, pointed and well formed; jaw, fine; throat should have no indications of shortness of breath or broken wind. Neck, of suitable length, strong but not too heavy, with heavy mane in the case of stallions. Shoulders, good shoulder blades. Back and loins, strong and well covered by muscles. Hind quarters, long; tail, handsomely carried and well set on, resembling the Arab as closely as possible. Hocks, low, sharply outlined, with powerful joints; never bandy legged or cow-hocked. Forelegs, well set on; not tied in, good, muscular forearm; short cannon; fetlocks not too long; fetlock joint, broad and of good conformation; hoof, sound and hard.

Exmoor and Dartmoor are extensive pony breeding estates. The first comprises 18,810 acres, mostly in possession of the heirs of Mr. Knight. When the estate was sold to Mr. Knight the original pure stock of Exmoor ponies did not pass with the estate, but were taken by the former proprietor, Sir F. Dyke Acland, to Halnicote, Taunton; only some twelve mares were left at Exmoor. After numerous futile attempts to cross the Exmoor with other breeds, the breeders returned to the pure Acland stock, and at present are producing some splendid animals, showing on a small scale all the features of the thoroughbred.

The Dartmoor ponies enjoy a wild life similar to that of the Exmoor. As a rule they are born and spend all their lifetime in the open, without being broken to either harness or saddle. The greater part of the last named ponies are dark brown. The Dartmoor ponies often attain a height of 13.2 hands; the stallions fourteen hands. Obviously there are among these a number of improved breeds particularly suitable for polo purposes.

The ponies or "Galloways" of Cumberland and Westmoreland have always been famous for endurance, the "Feltsider" (mountain bred) as well as the pony from the moors. At the present time the greater number of the herds, often numbering sixty head, are still entirely wild. The animals employed in agriculture are also used for breeding purposes, but proper attention is not paid to the selection of stallions. The only improved breed of these ponies, viz.: that bred by Lord Christopher B. Wilson, of Rigmaden Park, Kirkley Lonsdale, Westmoreland, the so-called Wilson ponies, have gained a world-wide reputation. They are powerful ponies, resembling the cob, with strong muscular development and a characteristically deep chest.

The Connemara ponies of Ireland are animals ranging in height from twelve to fourteen hands and upward. Lately they have been crossed with small hackneys, with very good results. Like all wild horses, they are spirited, lively and sure footed. The moist climate—perhaps the most humid in all Europe—has given them a very long coat. Due to their Spanish ancestry there are many pacers among them.

From the most ancient times the ponies of Scotland have been famous. They are rather large, thirteen to fourteen hands, and will evidently become larger by breeding. They resemble the little cobs of Wales. They are frequently called Galloways, but this name belongs properly only to the black ponies of the Island of Mull.

The smallest of the ponies, the Shetlands, are most sought for children, because of their tractability. There are on the island some 860 ponies employed in agriculture and some 4,000 which run wild, or are used only for breeding purposes. The number of these wild ponies and the scarcity of natural

feed prevents them from growing to any great size. The islanders have to fight with these wild ponies, which are accustomed to feeding themselves summer and winter, for such supplies of seaweed as they need. At times the ponies, which are wonderful swimmers, are driven to astonishing distances from the land.*

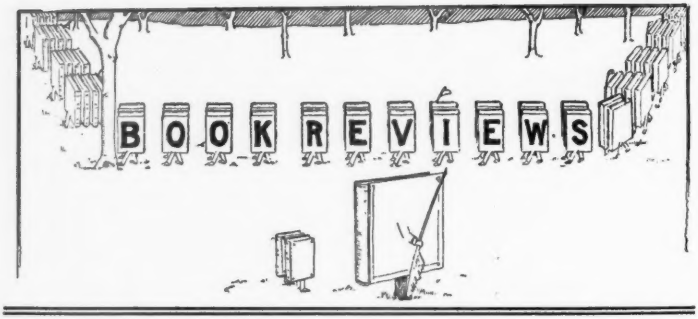
*For an exhaustive study of these races, see my book, Horsebreeding and Breeds of Horses in England. Leipsig, 1902. R. C. Schmidt & Co.

Editor's Table.

AN ENGLISH OPINION.

[From *Broad Arrow*, August 20, 1904.

The success of the U. S. Cavalry Association and its JOURNAL, written by cavalrymen alike keen and capable, suggests that for the British cavalry there might and ought to be some similar institution. At present there is none; and yet never has the cavalry arm been so important and its training and organization such matters of deep and earnest consideration. Those who wear the shoe know if and where it pinches; those who have served or are serving in the cavalry have felt or are feeling the pinch, and their practical experiences should not be lost. Of course, there is the *United Service Institution* available for the discussion of cavalry questions, but only to a very limited extent, and an association devoted specially and entirely to cavalry matters could and would go much more thoroughly into them than is possible in an institution ranging over the whole area covered by the navy and army. Such thorough consideration of cavalry details, which go to make up complete efficiency, is, it seems to us, almost a necessity, and it is to be hoped that steps may be taken to supply this want. What our cousins over the sea can do so well and with such practical effect surely we might do too. And what, in this sort of way is done with admirable results by the Royal Artillery and Engineers is a distinct encouragement to the cavalry. In response to a suggestion in our issue of the 21st May last, the editor of the JOURNAL OF THE U. S. CAVALRY ASSOCIATION has kindly forwarded copies of his publication to the principal military clubs and institutions, in order to give an idea of what is being done in this respect by the American cavalry. In it will be found the rules and regulations governing the Association, which may prove of assistance to officers of our own mounted branch who are inclined to consider the question of the formation of an institution on similar lines.



Kansas Historical Society.

Volume VIII has been received and is a most interesting book. Its publication is under the direction of Hon. Geo. W. Martin, Secretary of the State Historical Society of Kansas.

The volume contains much of interest to army men. A historical review of Kansas without a mention of the army would be like Hamlet with the principal character omitted.

Former Adjutant General Fox, of the Kansas National Guard, gives an extended review of the work of the Seventeenth Kansas Cavalry. The sketch is written in a happy vein and inspires the reader from beginning to end. A story by Robert M. Peck, who served in the First Dragoons before the war, gives his experience on the Kansas plains. It is a paper that deserves to be read by every soldier, particularly every cavalryman. Indeed, a military library can scarcely be considered complete without the volumes of this association. Officers of the army who wish to secure it may do so by writing to the secretary of the society at Topeka, Kansas.

The Semaphore Simplified.

"The Semaphore Simplified" is the title of a system of cards for learning the signal drill, just published by Gale & Polden, Ltd., of London, England. At first sight the learning of the letters seems very easy, especially when you take

them in order of the alphabet, but when the letters are taken out of order, as in spelling words, confusion results. One cannot apply the rules laid down so easily.

The system also depends upon holding two flags at certain fixed angles, in some cases differing by only forty-five degrees for different letters. It can readily be seen that in fast work one will vary the angles, and the result will be a guess as to what the sender intended to make.

The old system now in use has only three movements, to right for "one," to left for "two," and to front for "three." The combination of numbers is not difficult to learn, and if the flags are not waved through a fixed angle it does not make any material difference, as one can easily tell whether it is waved to the right, left, or front of the sender.

One can easily become proficient by practice with the system now in use, while it is doubtful if one could ever rely on the "Semaphore Simplified."



MEMBERSHIP OF THE UNITED STATES CAVALRY ASSOCIATION.

We give the list of members in the Association in somewhat different form, the names being now arranged alphabetically.

It is the intention to correct this list with every issue. If any errors are noted it will be conferring a favor if you will call attention to them.

The Association is anxious to increase its membership and in its efforts to do this all the members can give their assistance. If you know of any prospective members or subscribers, or any person who might be interested in the JOURNAL, the Council will be glad to have the address so that a copy of the JOURNAL may be mailed.

ALPHABETICAL LIST OF MEMBERS.

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Bargar, B. L., lt. col., Columbus, Ohio.
Barker, C. R., lt., Anniston, Ala.
Barnard, J. H., 2 lt. 5 cav., Ft. Huachuca, Ariz.
Barnum, M. H , capt. 8 cav., Jefferson Bks.
Barriger, Wm. S., 2 lt. 15 cav., Ft Ethan Allen.
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Barry, Thomas H., brig. gen., Atlanta, Ga.
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Barton, R. M., 1 lt. 5 cav., Ft. Huachuca, Ariz.
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Beach, F. H., capt. 7 cav , Camp Thomas, Ga.
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Beck, Wm. B., capt. ret., River Drive, Passaic N. J.
Bell, Jas M., brig. gen. ret., Washington.
Bell, J. F., brig. gen., Ft. Leavenworth.
Bell, O. W., capt. 7 cav., Ft. Myer, Va.
Bell, Sherman M., adj. gen., Denver, Col.
Bell, W. H., jr., 2 lt. 1 cav., Ft. Clark, Texas.
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Biegler, George W., 1 lt. 12 cav., Manila, P. I.
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Booth, Ewing E., capt. 10 cav., Ft. Leavenworth.
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Bowdish, Myron B., 2 lt. 10 cav., Ft. Washakie.
Bowen, W. H. C., maj. 12 inf., Buffalo, N. Y.
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Bowman, George T., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Boyd, Carl, 2 lt. 3 cav., Ft. Yellowstone, Wyo.
Boyd, Charles T., capt. 10 cav., Reno, Nev.
Braden, C., 1 lt. ret., Highland Falls, N. Y.
Brainard, D. L., maj. C. S., New York City.
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Breck, Samuel, brig. gen. ret., Boston, Mass.
Brees, H. J., 1 lt. sig. corps, Ft. Leavenworth.
Brett, Lloyd M., capt. 7 cav., Washington, D. C.
Briand, Christian, 1 lt 15 cav., Ft. Myer, Va.
Bristol, Matt C., 2 lt. 13 cav., Manila, P. I.
Brooks, E. C., capt. 11 cav., Ft. Sheridan, Ill.
Brown, L. T., lt. col., 33d & Smallwood sts., Pittsburg, Pa.
Brown, L. G., 2 lt 12 cav., Manila.
Brown, Oscar J., capt. 1 cav., Ft. Sam Houston, Texas.
Brown, R. A., capt. 4 cav., Ft. Leavenworth.
Brown, William C., maj. 3 cav., Ft. Assinniboine, Mont.
Bryan, R. B., capt. 5 cav., Ft. Grant, Ariz.
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Buchanan, E. A., 2 lt 9 cav., Wawona, Cal.
Buchan, F. E., 1 lt. 3 cav., Fort Leavenworth.
Bull, Henry T., 2 lt. 13 cav., Manila, P. I.
Burkhardt, S , jr., capt. 19 inf., Vancouver Bks., Wash.
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Burnett, George R , 1 lt. ret., Iowa City, Ia.
Burroughs, James M., 1 lt. 12 cav., Manila, P. I.
Bush, F. N., lt., Peoria, Ill.
Butler, James S., 1 lt. sig. corps, Manila, P. I.
Butler, Matt C., jr., capt. 7 cav., World's Fair Station.
Butler, Rodman, 2 lt. 6 cav., Ft. Keogh, Mont.
Byram, Geo. L., capt. 6 cav., Ft. Meade, S. Dak.
Cabaniss, A. A., capt. 24 inf., Ft. Missoula.
Cable, Wm. A., lt , 103 W 55th st., New York.
Cabell, De Rosey C., capt. 1 cav., Ft. Clark, Tex.
Caldwell, R. C., 1 lt. 7 cav., Camp Thomas, Ga.
Calvert, E., 1 lt. 9 cav., Ft. Walla Walla, Wash.
Cameron, Geo. H., capt. 4 cav., Ft. Riley.
Camp, Beauford R., 2 lt. 9 cav., S. Francisco.
Card, C. S., lt., 1139 Clarkson st., Denver, Col.
Carlton, C. H., brig. gen. ret., Rye, Westchester County, N. Y.
Carpenter, E., capt. art., Ft. Totten, N. Y.
Carpenter, L. H., brig. gen. ret., Philadelphia.
Carr, Camillo C. C., brig. gen., St. Paul, Minn.
Carr, Eugene A., brig. gen. ret., Washington, D. C.
Carroll, Henry, col. ret., Lawrence, Kans.

Carson, John M., jr., maj. Q. M. D., West Point.
Carson, L. S., 1 lt. 8 cav., Ft. Sill, Okla.
Carson, T. G., capt. 10 cav., Ft. Washakie, Wyo.
Carter, Wm. H., brig. gen., Manila, P. I.
Cartmell, N. M., 1 lt. 10 cav., Ft. Robinson, Neb.
Case, Frank L., 1 lt. 12 cav., Manila, P. I.
Cassidy, H. C., capt., 2205 Calumet ave., Chicago.
Casteel, D. T. E., 1 lt. 7 cav., Camp Thomas, Ga.
Cathro, Thos. E., 2 lt. 13 cav., Indianapolis, Ind.
Cavenaugh, H. La T, capt. 10 cav., Ft. Robinson, Neb.
Chaffee, Adna R., lt. gen., Washington, D. C.
Chapman, G. L., lt. 25 inf., Ft. Reno, Okla.
Chapman, L. A. I., 1 lt. 1 cav., Ft. Leavenworth.
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Chase, John, brig gen, Denver, Col.
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Clark, Chas. H., maj. O. D., Springfield, Mass.
Clark, Will H., 913 Marquette Bldg, Chicago.
Clark, Wm. F., capt. 2 cav., Manila, P. I.
Clayton, P., jr., capt. 11 cav., Jefferson Bks, Mo.
Cleveland, J. Wray, 146 Broadway, N. Y.
Clopton, Wm. H., jr., 1 lt. 13 cav., Manila, P. I.
Cocke, J., 2 lt. 11 cav., Jefferson Bks., Mo.
Coffey, Edgar N., 1 lt. 2 cav., Manila, P. I.
Cole, C. W., 1 lt. 9 cav., Ft. Walla Walla, Wash.
Cole, Geo. M., gen., Hartford, Conn.
Cole, James A., capt. 6 cav., Ft. Meade, S. Dak.
Coleman, S., 1 lt. 9 cav., Ft. Walla Walla, Wash.
Collins, R. L., 2 lt. 2 cav., Manila, P. I.
Collins, Thos. D., maj., Gainesville, Tex.
Comly, George B., 1 lt. 3 cav., West Point.
Conklin, John, jr., capt. art., Ft. Ethan Allen.
Connell, W. M., 1 lt. 7 cav., Camp Thomas, Ga.
Conrad, C. H., jr., capt. 3 cav., St. Louis Exposition.
Conrad, Julius T., capt. 3 cav., Chester, Pa.
Converse, G. L., capt. ret., Columbus, Ohio.
Cooley, W. M., 2 lt. 5 cav., Ft. Wingate, N. M.
Cooper, C. L., brig. gen. ret., Denver, Col.
Cootes, Harry N., 1 lt. 12 cav., Manila, P. I.
Coppock, E. R., 2 lt. 3 cav., Ft. Apache, Ariz.
Corcoran, Thos. M., capt. 13 cav., Manila, P. I.
Cornell, W. A., 1 lt. 10 cav., Ft. Robinson, Neb.
Cornish, L. W., capt. 9 cav., San Francisco.
Coughlan, T. M., 1 lt. 2 cav., Manila, P. I.
Counselman, W., capt., 335 Rush st., Chicago.
Cowell, T. R., capt., Parkersburg, W. Va.
Cowin, W. B., 1 lt. 3 cav., Ft. Assinniboine.
Cowles, W. H., 2 lt. 4 cav., Ft. Riley.
Cox, Edwin L., 2 lt. 9 cav., San Francisco.
Coxe, A. B., 1 lt. 8 cav, Jefferson Bks, Mo.
Craig, H., jr., 1917 Chestnut st., Philadelphia.
Craig, J. W., capt 12 cav., Manila, P. I.
Craig, M., capt. 10 cav., Ft. Leavenworth.
Craighill, Wm. E., capt. eng., Mobile, Ala.
Craigie, D. J., brig gen. ret., Washington, D. C.
Crane, Chas J., lt. col. 8 inf., San Juan, P. R.
Craycroft, Wm. T., 1 lt. ret., Dallas, Texas.
Cress, Geo. O., capt. 4 cav., Orchard Lake, Mich.
Crimmins, M. L., 1 lt. 19 inf., Ft. Leavenworth.
Croft, E., capt. 2 inf., Ft. Logan, Col.
Crosby, Herbert B., capt. 11 cav., Manila, P. I.
Crowder, E. H., col. j. a., Washington, D. C.
Crozier, Wm., brig gen., Washington, D. C.
Cruse, Thos., maj. Q. M. dept., St. Louis.
Cullen, D., 1 lt. 3 cav., Ft. Assinniboine, Mont.
Culver, C. C., 1 lt. 3 cav., Ft. Assinniboine, Mont.
Cunningham, T. H., 2 lt. 8 cav., Jefferson Bks.
Curry, W. L., capt., Columbus, O.
Cusack, Joseph E, capt. 12 cav., Manila, P. I.
Dade, A. L., capt. 13 cav., Manila, P. I.
Dallam, S. F., capt. 5 cav., Ft. Huachuca, Ariz.
Dalton, H. F., 1 lt. 6 inf., Ft. Leavenworth.
Davidson, A. H., 1 lt. 13 cav., Manila, P. I.
Davis, B. O., 2 lt. 10 cav., Ft. Washakie, Wyo.
Davis, C. O., capt., Corsicana, Tex.
Davis, E., 1 lt. 11 cav., Ft. Des Moines, Iowa.
Davis, F. E., 2 lt. 8 cav., Jefferson Bks, Mo.
Davis, G. B., brig. gen., Washington, D. C.
Davis, Ira D., capt., Houston, Tex.
Davis, M. F., capt. 1 cav., Ft. Leavenworth
Davis, Norman H., 2 lt. 14 cav., Manila, P. I.
Davis, T. F., lt. col. 30 inf., Ft. Logan H. Roots, Ark.
Davis, W., col. ret., The Albion, Baltimore, Md.
Day, Clarence R., capt. 5 cav., Macon, Mo.
Dean, W., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Degen, J. A., 1 lt. 12 cav., Manila, P. I.
Deltrick, L. L., 1 lt. 13 cav., Manila, P. I.
Dickman, J. T., capt. 8 cav., Washington, D. C.
Disque, B. P., 1 lt. 3 cav., Ft. Leavenworth.
Dixon, V. D., 1 lt. 5 cav., Ft. Wingate, N. Mex.
Dockery, A. B., lt. 5 cav., Ft. Wingate, N. M.
Dodd, G. A., maj. 3 cav., Philadelphia.
Dodge, C. C., gen., 10 E 76 St., New York.
Dodge, Francis S., brig. gen., Washington, D. C.
Dodge, T. A., capt. ret., New York City
Dolan, T. J., capt., 2021 Walnut st., Philadelphia.
Donaldson, T. Q., capt. 8 cav., Ft. Sill, O. T.
Donovan, A. E., vetn. art., Vancouver Bks.
Dorcy, B. H., 1 lt. 4 cav., Jefferson Bks.
Dorst, J. H., col. 3 cav., Ft. Assinniboine.
Dougherty, C. A., 2 lt. 13 cav., Manila, P. I.
Drake, C. B., capt. 14 cav., Manila, P. I.
Dudley, Clark D., 1 lt. 14 cav., Manila, P. I.
Duff, Robt. J., capt. 8 cav., Ft. Riley.
Ducher, H. M., vetn., Peekskill, N. Y.
Duvall, W. P., maj. art., Washington, D. C.
Dyer, Ed. H., maj., Rutland, Vt.
Early, Orson L., 2 lt. 8 cav., Ft. Riley.
Eaton, W. R., lt., box 952, Denver, Col.
Edgerly, Winfield S., col. 2 cav., Manila, P. I.
Edmunds, C. W., lt., 425 Walnut st., Philadelphia.
Edwards, Frank A., maj. 4 cav., Rome, Italy.
Edwards, Frank B., 1 lt. art., Ft. Hamilton.
Edwards, Frank B., 1 lt. 7 cav., St. Paul, Minn.
Edwards, W. W., 2 lt. 10 cav., Ft. Robinson, Neb.
Elliott, S. H., capt. 11 cav., Ft. Des Moines, Ia.
Ellis, R. B., 1 lt. 14 cav., Manila.
Eltinge, LeRoy, capt. 15 cav., Ft. Ethan Allen.
Ely, E. J., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Ely, H. E., capt. 26 inf., Ft. Leavenworth.
Engel, E., 2 lt. 9 cav., Ft. Walla Walla, Wash.
English, E. G., 2 lt. 5 cav., Ft. Apache, Ariz.
Enos, Copley, 2 lt. 1 cav., Ft. Sam Houston, Texas.
Enslow, R. S., lt. 10 cav., Ft. Washakie, Wyo.
Erwin, J. B., maj. 9 cav., Ft. Leavenworth.
Estes, Geo. H., jr, capt. 20 inf., Manila, P. I.
Esty, Thos. B., 2 lt. 9 cav., Three Rivers, Cal.
Eustes, H. L., lt., 1410 Jackson ave., New Orleans, La.
Evans, E. W., capt. 8 cav., Jefferson Bks, Mo.
Evans, Geo. H., capt. ret., Pittsburg, Pa.
Fair, John S, 1 lt. 9 cav., Ft. Leavenworth.
Farber, Chas. W., capt. 8 cav., 513 Broadway, Albany, N. Y.
Farmer, Chas. C., jr., 1 lt. 10 cav., Ft. Leavenworth.
Farnsworth, Chas. S., capt. 7 inf., Manila, P. I.
Farnum, F. H., 2 lt. 11 inf., Ft. D. A. Russell.
Faulkner, A. U., 1 lt. art., Ft. Du Pont, Del.
Fechét, Jas. E., 1 lt. 9 cav., Presidio San Francisco.
Fenton, C. W., capt. paymr (cav.), Manila.
Fisher, Ronald E, 2 lt. 14 cav., Manila.
Fitch, Roger S., 1 lt. 1 cav., Ft. Leavenworth.
Fleming, L. J., capt. Q. M., San Antonio, Tex.
Fleming, R. J., capt. 10 cav., Ft. Robinson.
Foerster, L., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Foltz, Fred S., capt. 2 cav., Manila, P. I.
Fonda, Ferd. W., 1 lt. 10 cav., Ft. Mackenzie.
Foote, S. M., capt. art., Ft. Myer, Va.
Forbush, W. C., col. ret., The Markeen, 1291 Main St, Buffalo, N. Y.
Foreman, Milton J., maj., 3412 Vernon Ave., Chicago.
Forsyth, Jas. W., maj. gen. ret, Columbus, O.
Forsyth, Wm. W., capt. 6 cav., Ft. Keogh, Mont.
Fortescue, G. R., 1 lt. 10 cav., Washington.
Foster, A. B., capt. 19 inf., Vancouver Bks.
Foster, Fred. W., maj. 5 cav., Whipple Bks. Ariz.
Foster, Leo F., capt. art., Ft. Fremont, S. C.

Fountain, S. W , lt. col. 4 cav., Jefferson Bks.
Foy, Robert C., 1 lt. 1 cav., West Point, N. Y.
Fraser, Walter, vet. 13 cav., Manila, P. I.
Freeman, H. B., brig. gen. ret., Leavenworth.
Fulle, C. J., capt., Salinas, Cal.
Fuller, A. M., capt. 9 cav., Knoxville, Tenn.
Fuller, Ezra B., maj., ret., Columbia, S. C.
Funston, Fred., brig. gen., Chicago, Ill.
Furlong, J. W., capt 6 cav., Ft. Meade, S. D.
Galbraith, J. G , maj. 1 cav., Des Moines, Ia.
Gale, George H. G., maj. i. g. d., Star Building, St. Louis.
Gardenhire, W. C., 2 lt. 15 cav., Ft. Ethan Allen.
Gardner, Edwin F., lt. col. ret., Holliston, Mass.
Gardner, John H., capt. 2 cav., Manila, P. I.
Garity, George, 1 lt. 2 cav., Gen. Hospital, Presidio, San Francisco.
Garrard, Joseph, lt. col. 14 cav., Manila, P. I.
Gaston, Joseph A., maj 1 cav., Ft. Sam Houston, Texas.
Gatley, Geo. G., capt. art., Manila, P. I.
Gaujot, Julien E., 1 lt. 11 cav., Ft. Des Moines Iowa.
Gibbins, H., 1 lt. 9 cav., Ft. Walla Walla, Wash.
Gillem, Alvan C., 1 lt. 4 cav., Jefferson Bks, Mo.
Glasgow, Wm. J., capt. 13 cav., Manila, P. I.
Gleaves, S. R., 1 lt. 1 cav., Ft. Clark, Tex.
Godfrey, E. S., col. 9 cav., Ft. Riley, Kan.
Godson, W. F. H., 1 lt. 10 cav., Ft. Robinson.
Godwin, E. A., lt. col. 9 cav., San Francisco.
Going, R. B , 1 lt. 15 cav., Ft. Ethan Allen.
Goldman, H. J., capt. 5 cav., Ft. Apache, Ariz.
Goodale, Geo. S., capt. 23 inf., Manila.
Goode, George W., capt. 1 cav., Ft. Clark, Tex.
Goodspeed, Nelson A., 2 lt. 3 cav., Ft. Assiniboine, Mont.
Gordon, Geo. A., col., Savannah, Ga.
Gordon, Wm. W., 2 lt. 2 cav., Manila, P. I.
Gould, J. H , vetn. 11 cav., Ft. Riley, Kas.
Graham, Alden M., 2 lt. 1 cav., Ft. Clark, Tex.
Granger, R. S., 1 lt. art., Ft. Riley.
Grant, Frederick D., brig. gen., New York.
Grant, Walter S., 1 lt. 3 cav., St. Paul, Minn.
Gray, Alonzo, capt. 14 cav., Manila, P. I.
Greely, Adolphus W., brig. gen. chf. sig. off., Washington, D. C.
Gresham, John C., maj. 15 cav., Ft. Myer, Va.
Grierson, B. H., brig. gen. ret., Jacksonville, Ill.
Grierson, C. H., capt. 10 cav., Ft. Robinson.
Griffith, F. D., jr., 2 lt. 6 cav., Ft. Meade, S. Dak.
Griggs, Everett G., capt., Tacoma, Wash.
Groome, J. C , capt., 1222 Walnut st., Philadelphia, Pa.
Gross, F. W., col., 142 Logan ave., Denver, Col.
Grove, W. R , capt. sub. dept., Kansas City.
Grunert, G., 2 lt. 11 cav., Ft. Sheridan, Ill.
Grutzman, W. R., vetn. 15 cav., Ft Myer, Va.
Guest, John, capt. ret., 16 Revere, Atlantic City, N. J.
Guilfoyle, J. F., maj. mil sec., Manila, P. I.
Haight, C. S., 1 lt. 4 cav., Ft. Leavenworth.
Haldeman, Horace L., lt. col., Real Estate Bldg, Philadelphia, Pa.
Hall, C. G., capt. 5 cav., Ft. Du Chesne, Utah.
Hall, W. P., brig. gen , Washington, D. C.
Hammond, Andrew G., maj. 3 cav., World's Fair Station, St Louis.
Hammond, C. L., 4627 Greenwood ave., Chicago.
Hanna, M. E., capt. 3 cav., Ft. Assinniboine, Mont.
Harbord, James G., capt. 11 cav., Manila, P. I.
Hardeman, L., capt. 11 cav , Ft. Des Moines, Ia.
Hardie, Francis H., maj 14 cav., Manila, P. I.
Hardin, E. E., maj. 7 inf., Manila, P. I.
Harper, Roy B., capt. 3 cav., Ft. Assinniboine, Mont.
Harris, E. R., 2 lt. 11 cav., Ft. Des Moines, Ia.
Harris, F. W., capt. 4 cav., Vienna, Austria.
Harris, Moses, maj. ret., New York City.
Harrison, Ralph, capt. 2 cav., Manila, P. I.
Hart, A. C., 1 lt, 10 cav., Ft. Robinson, Nebr.
Hartman, J. D. L., capt. 1 cav., Ft. Leavenworth.
Harvey, Charles G., 1 lt. 2 cav., Manila, P. I.
Hasson, John P., 1 lt. 6 cav., Ft. Meade, S. D.
Hathaway, C. E., 2 lt. 9 cav , Wawona, Cal
Hawkins, Clyde E., capt. 2 cav., Manila, P. I.
Hawkins, H. S., capt. sub. dept., Denver, Colo.
Hay, W. H., capt. 10 cav., Ft. Robinson, Nebr.
Hayden, John L , capt. art., San Francisco.
Hayden, Ralph N., 2 lt. 7 cav., Camp Thomas.
Hayne, Paul T., jr., 1 lt. 14 cav., Manila, P. I.
Hazzard, Oliver P. M., 1 lt. 2 cav., Manila, P. I.
Hazzard, Russell T., 1 lt. 1 cav., Ft. Clark, Tex.
Heard, J. W., capt. 3 cav., Ft. Assinniboine.
Heaton, Wilson G , 1 lt. 13 cav., Manila, P. I.
Hedekin, C. A., capt. 3 cav., Ft. Apache, Ariz.
Heiberg, E. R., capt. 6 cav., Ft. Meade, S. Dak.
Heidt, Grayson V., 1 lt. 14 cav., Manila, P. I.
Hein, O. L., lt. col. ret., Washington, D. C.
Heintzelman, S., 1 lt. 6 cav., Ft. Leavenworth.
Hemphill, J. E., 1 lt. sig. corps, Nome, Alaska.
Hennessey, P. J., 2 lt. 5 cav., Ft. Huachuca.
Henry, Guy V., capt. 12 cav., 117 58 st., N. Y. City.
Henry, J. B., jr., 2 lt. 4 cav., Fort Leavenworth.
Herman, Fred J., 1 lt. 9 cav., Wawona, Cal.
Hero, W. S., lt., 622 Commercial Place, New Orleans, La.
Herron, Joseph S., capt. 2 cav., Manila, P. I.
Hershler, F. W., 1 lt. 4 cav., Ft. Leavenworth.
Hickey, J. B., maj. 11 cav., 20 3d ave., N. Y.
Hickman, E. A., 1 lt. 1 cav., Ft. Sam Houston, Tex.
Hickok, H. R., capt. 15 cav., Ft. Myer, Va.
Hilgard, M. R., 1 lt. 16 inf., Ft. McPherson, Ga.
Hill, Wm. P., vetn. 12 cav., Manila, P. I.
Hill, Zeph T., maj., Denver, Col.
Hirsch, Harry J., capt. 20 inf., Manila, P. I.
Hodges, H. L., 2 lt. 1 cav., Ft. Clark, Texas.
Hodgson, F. G., maj. Q. M. D., Vancouver Bks.
Hoff, J. V. R., lt. col. M. D., Ft. Leavenworth.
Holabird, S. B., brig. gen. ret., Vineyard, Haven, Mass.
Holbrook, L. R., capt. 5 cav., Ft. Leavenworth.
Holbrook, W. A., capt. 5 cav., Whipple Bks.
Holcomb, Freeborn P., lt. 14 cav., Manila, P. I.
Holliday, Milton G., 2 lt. 15 cav., Ft. Myer, Va.
Hope, F. W., lt., Broad and Front sts., Red Bank, N. J.
Hopkins, A. T., lt., Watertown, S. D.
Hoppin, C. B., maj. 15 cav., Ft. Ethan Allen, Vt.
Hornbrook, J. J., capt. 12 cav., Manila, P. I.
Horton, W. E., capt. Q. M. D., Washington, D. C.
Howard, H. P., capt. 14 cav., Manila, P. I.
Howard, J. H., 2 lt 9 cav., San Francisco.
Howell, J. R., col., Bohemian Club, San Francisco.
Howze, R. L., capt. 6 cav., World's Fair Station, St. Louis.
Hoyle, George S., maj. ret., Indian Spring.
Huggins, E. L , brig. gen. ret., Muskogee, I. T.
Hughes, J. B., capt. 4 cav., Jefferson Bks, Mo.
Hughes, Martin B., col. 1 cav., Ft. Clark, Tex.
Hume, John K., 2 lt. 14 cav., Manila, P. I.
Hunsaker, I. L., 2 lt. 3 cav., Ft. Apache, Ariz.
Hunt, Levi P., maj. 13 cav., Washington.
Hunter, G. K., maj 6 cav., Ft. Meade, S. Dak.
Huntt, Geo. G., col. ret , Carlisle, Pa.
Huston, James, 1 lt. 10 cav., Washakie, Wyo.
Hyde, A. P. S., 1 lt. art., Ft. Terry, N. Y.
Hyer, B. B., capt. 13 cav., Manila, P. I.
Ingerton, W. H., capt., Amarillo, Tex.
Irons, J. A., maj. insp. gen., Star Bldg., St. Louis, Mo.
Jackson, Henry, brig. gen. ret., Leavenworth.
Jackson, R. F., 1 lt. 3 cav., Washington Bks.
Jacobs, Douglas H., 2 lt. 14 cav , Manila, P. I.
Jeffers, S. L., 1 lt. 7 cav., Camp Thomas.
Jenkins, J. M., capt. 5 cav., Ft. Huachuca, Ariz.
Jennings, T. H , 2 lt. 7 cav., Ft. Myer, Va.
Jervey, E. P., jr , capt. 10 cav., Oklahoma City.
Jewell, Chas. H., vetn. 13 cav., Manila, P. I.
Jewell, James M., 2 lt. 14 cav., Manila, P. I.
Johnson, A., capt. 13 inf , Alcatraz Island, Cal.

Johnson, C. P , capt. 10 cav., Ft. Robinson, Neb.
Johnson, F. O., maj. 2 cav., Manila P. I.
Johnson, F. C., 1 lt. 2 cav., Manila. P. I.
Johnson, H. B., 2 lt. 3 cav., Ft. Assinniboine.
Johnston, G , 1 lt. sig. corps, Benicia Bks. Cal.
Johnston, J. A., gen., 2111 Mass. ave., Washington, D. C.
Johnston, W. T., capt. 15 cav., Ft. Myer, Va.
Jones, C. R., 273 S. Fourth st., Philadelphia.
Jones, F. M., 1 lt. 9 cav., Wawona, Cal.
Jones, S. G , capt. 11 cav., Ft. Des Moines, Ia.
Jordan, H. B., 1 lt. O. D., Frankford, Pa.
Joyce, K. A., 2 lt. 6 cav., Ft. Leavenworth.
Jurich, A., jr., 2 lt. 4 cav , Jefferson Bks, Mo.
Karnes, Wm. L., 1 lt. 6 cav., Omaha, Neb.
Keller, Frank, 2 lt. 8 cav., Jefferson Bks, Mo.
Kelly, Wm., 1 lt. engr., P. O. Bldg., New London, Conn.
Kelly, W., jr., capt. 9 cav., West Point, N. Y.
Kelly, William H , capt., 140 Glenway st., Dorchester, Mass.
Kendall, Henry P., maj. 12 cav., Washington.
Kendall, Henry M., maj. ret., Soldiers' Home, Washington.
Kennedy, W. B., maj. ret , Los Angeles, Cal.
Kennington, Alfred E., capt. 7 cav., Camp Thomas, Ga.
Kerr, James T., lt. col, a. g., Washington, D. C.
Kerr, J. B., col. 12 cav., San Francisco, Cal.
Kerth, Monroe C., capt. 23 inf., Manila, P. I.
Ketcheson, J. C., Leavenworth, Kan.
Keyes, Allen C., 2 lt. 14 cav., Manila, P. I.
Keyes, E. A., 2 lt. 6 cav., 1970 3d st., San Diego, Cal.
Kilbourne, Louis H., 2 lt. 8 cav., Ft. Sill, Okla.
Kilian, Julius N., capt. sub. dept., 3d and Olive, St. Louis.
Kimball, Gordon N., 1 lt. 12 cav., Manila, P. I.
King, Albert A., 1 lt. 8 cav., Ft. Sill, Okla.
King, Charles, brig. gen., Milwaukee, Wis.
King, Ed L., capt. 2 cav., Colon, Panama.
Kirkman, Hugh, 1 lt. 8 cav., Ft. Sill, Okla.
Kirkpatrick, George W., capt. 15 cav., Ft. Ethan Allen, Vt.
Kline, J . brig. genl. ret., Ft. Snelling, Minn.
Knight, J. T., maj. qm. dept , Philadelphia.
Knox, R. S., 1 lt. 24 inf., Ft. Missoula, Mont.
Knox, Thomas M., 1 lt. 4 cav., Ft. Riley, Kas.
Knox, T. T., col. ret., New York City.
Kochersperger, S. M , capt. 2 cav., Manila, P. I.
Koehler, L. M., capt. 4 cav., Ft. Leavenworth.
Koester. F. J., capt. 15 cav., Ft. Myer, Va.
Kramer, J. L , maj , Parkersburg, W. Va.
Kromer, L. B., 1 lt. 11 cav., West Point, N. Y.
Krumm, Herbert Z , 2 lt. 1 cav., Ft. Clark, Tex.
Lacey, F. E., jr., capt. 1 inf., Ft. Wayne, Mich.
Lahm, F. P , 2 lt. 6 cav., West Point.
Lake, B. M., capt., Alcutt P. O., Denver.
Landis, J. F. R., capt. 1 cav., Ft. Clark, Tex.
Langdon, J. G., 1st lt. art., Ft. Miley, Cal.
Langhorne, G. T., capt. 11 cav., Manila, P. I.
Lanza, C. H , capt. art. corps, Birmingham, Ala.
Leach, S. S., maj. eng., Ft. Leavenworth.
Lear, B , jr , 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Leary, E. M., capt. 11 cav., Ft. Riley, Kan.
Lebo, Thos C., col 14 cav., Manila, P. I.
Lechtman, C., col., Kansas City, Mo.
Lee, Fitzhugh, brig. gen. ret., Richmond, Va.
Lee, Fitzhugh, jr., 1 lt. 12 cav., Manila, P. I.
Lee, Geo. M., 1 lt. 4 cav., Ft. Riley, Kan.
Lee, J. M., brig. gen., San Antonio, Tex.
Lesher, R. W , 2 lt. 3 cav., Ft. Yellowstone, Wyo.
Lewis, C. R., lt. 23 inf, Manila.
Lewis, J. H., 1 lt. 5 cav., Ft. Wingate, N. M.
Lewis, LeRoy D , 2 lt. 4 cav., Ft. Riley, Kan.
Lewis, T. J., capt. 2 cav., Louisville, Ky.
Lincoln, James R , brig. gen., Ames, Iowa.
Lindsey, J. R., capt. 15 cav., Ft. Ethan Allen.
Lindsley, Elmer, capt. 1 cav., Ft Clark, Tex.
Lininger, Clarence, 2 lt. 1 cav., Ft. Clark, Tex.
Lippincott, Aubrey, 1 lt. 14th cav., Manila, P. I.
Littebrant, W. T , capt. 12 cav., Manila, P. I.
Liverman, H. T., capt., Mansfield, La.
Livermore, R. L., capt. 10 cav., Ft. Bayard, N. M.
Lochridge, P. D., capt. 13 cav , Manila, P. I.
Lockett, James, maj. 4 cav., Ft. Riley, Kan.
Lockwood, J. A., capt. ret., 530 5th ave., N. Y.
Logan, A. J., col., 119 3d ave., Pittsburg, Pa.
Lomax, L. C., lt , Telluride, Col.
Long, John D., 1 lt. 12 cav., Manila, P. I.
Longstreet, Jas., jr., 1 lt. 13 cav., Manila, P. I.
Lott, Abraham G., capt. 6 cav., Ft. Meade, S. D.
Loud, John S., lt. col. ret., Washington, D. C.
Love, Moss L., 2 lt. 2 cav., Manila, P. I.
Love, Robt. R., 2 lt. 9 cav., Three Rivers, Cal
Lovell, Geo. E., 1 lt. 7 cav. Camp Thomas, Ga.
Lowe. A. W., maj., 1 Olive st., Lynn, Mass.
Lowe, Wilson, maj., Upper Alton, Ill.
Lowe, Wm. L., 1 lt. 13 cav., Manila, P. I.
Ludington, M. I., maj. gen. ret., Skaneateles, Onondaga Co., New York.
Luedeka, E. C., lt , 245 Seminary ave., Chicago.
Luhn, Wm. L., 1 lt. 11 cav., Ft. Riley, Kan.
Lull, C. T. E., lt. art., Ft. Worden, Wash.
Lusk, Wm. V., vetn. 2 cav., Manila, P. I.
Lyon, C. A., col., Sherman, Texas.
McAndrews, Jos. R., 1 lt. 1 cav., Ft. Sam Houston, Tex.
MacArthur, Arthur, maj gen., San Francisco.
Macklin, J. E., lt. col. 3 inf., Ft. Liscum, Alaska.
MacKinley, W. E. W., 1 lt. 1 cav., Washington, D. C.
MacLeod, Norman, lieut., North American Bldg., Philadelphia.
McCabe, E. R. W., 2 lt. 6 cav., Ft. Keogh, Mont.
McCain, Wm. A., 2 lt. 8 cav., Ft. Riley, Kas.
McCarthy, D. E., maj. Q. M. D., Ft. Leavenworth.
McCaskey, D , 1 lt. 4 cav., Ft. Leavenworth.
McCaskey, Wm. S., brig. gen., Manila, P. I.
McClernand, E. J., maj. a. g., St. Louis, Mo.
McClintock, J., lt. 5 cav., Ft. Wingate, N. M.
McClure, A. N., 1 lt. 5 cav., Ft. Duchesne, Utah.
McClure, N. F., capt. 5 cav., Ft. Huachuca, Ariz.
McCord, J. H., lt. col., St. Joseph, Mo.
McCormick, L. S., maj. 7 cav., Ft. Leavenworth.
McCornack, W. H., capt. 9 cav., Wawona, Cal.
McCoy, Frank R , capt. 3 cav., Manila, P. I.
McCrossin, E. J., 614 Nat. Bank Bldg., Birmingham, Ala.
MacDonald, A., vetn. 11 cav., Ft. Des Moines, Ia.
MacDonald, G. H., capt. 1 cav., West Point.
McDonald, J. B , capt. 3 cav., Ft. Assiuniboine.
McEnhill, Frank, 2 lt. 2 cav., Manila, P. I.
McFadden, J. F., lt., 121 Chestnut st., Philadelphia.
McGee, Oscar A., 1 lt. 2 cav., Manila, P. I.
McGonnigle, J. A., lt , Leavenworth, Kan.
McKenney, Henry J., 1 lt. 14 cav., Manila, P. I.
McKee, Will J., gen., Indianapolis.
McKinley, James F., 1 lt. 14 cav., Manila, P. I.
McLeer, J. C., lt., 475 Halsey st., Brooklyn.
McMullen, J. I., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
McMurdo, C. D., vetn. 10 cav., Ft. Robinson.
McNally, R. E., 1 lt. 3 cav., Ft. Yellowstone, Wyo.
McNamee, M. M., capt. 15 cav., rectg. serv., 18 Railroad Bldg., 1515 Larimer st., Denver.
McNarney, F. T., 1 lt. 6 cav., Ft. Meade.
Macomb, A. C., capt. 5 cav., Ft. Huachuca, Ariz.
Macomb, M. M., maj. art. corps, Washington.
Maize, Sidney D., 2 lt. 3 cav., Boise Bks, Idaho.
Mangum, W. P., jr., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Mann, H. E., 2 lt. 7 cav., Camp Thomas, Ga.
Marshall, F. C., capt. 15 cav., West Point, N. Y.
Martin, I. S., 2 lt. 15 cav., Ft. Ethan Allen, Vt.
Martin, J. W., lt., 1709 Walnut st., Philadelphia.
Martin, W. F., 1 lt. 2 cav., Manila, P. I.
Mason, Chas. W., maj. 4th inf., Manila, P. I.
Maus, M. P., col. 20 inf., Manila, P. I.
Mayo, Charles R., 2 lt. 12 cav., Manila. P. I.
Meade, W. G., 2 lt. 11 cav., Ft. Riley, Kan.
Mearns, Robert W., capt. 20 inf., Manila, P. I.
Mears, Fred., 2 lt. 5 cav., Ft. Leavenworth.
Megill, S. C., 2 lt. 8 cav., Jefferson Bks, Mo.
Meltzer, C. F., lt., 1282 Wilcox ave., Chicago.
Mercer, W. A., capt. 7 cav., Carlisle, Pa.
Merritt, W., maj. gen. ret., Washington, D. C.

Metcalf, W. S., gen., Lawrence, Kan.
Meyer, Oren B., capt. 14 cav., Manila, P. I.
Michie, R. E. L., capt. 12 cav., Manila, P. I.
Miller, Alex. M., col. eng., Washington, D. C.
Miller, A. M., jr., capt. 9 cav., Ft. Walla Walla.
Miller, Archie, 1 lt. 6 cav., Ft. Keogh, Mont.
Miller, E. L., lt., 510 Madison ave., Albany.
Miller, O., lt., 501 Russell ave, Cleveland, O.
Miller, Troup, lt. 7 cav., Camp Thomas, Ga.
Miller, Wm. H., lt. col., Q.M. dept., Chicago, Ill.
Mills, Albert L., brig. gen., West Point, N. Y.
Mills, A., brig. gen. ret., Washington, D. C.
Mills, S. C., col. insp. gen. dept., Washington.
Milton, A. M., 2 lt. 4 cav., Jefferson Barracks.
Miner, C. W., gen. ret., The Chittenden, Columbus, Ohio.
Mitchell, George E., capt. 13 cav., Manila, P. I.
Mitchell, H. E., 2 lt. 3 cav., Boise Bks, Idaho.
Moffet, Wm. P., 1 lt. 13 cav., 713 w. 19 st, Des Moines, Ia.
Mohn, A. J., 2 lt. 4 cav., Jefferson Bks, Mo.
Monohan, J. J., capt., West Chelmsford, Mass.
Moore, Francis, brig. gen., San Francisco.
Moore, J. A., lt. art. corps, Savannah, Ga.
Morey, Lewis S., 1 lt. 12 cav., Manila, P. I.
Morgan, G. H., maj. 9 cav., University of Minnesota, Minneapolis, Minn.
Morgan, John M., capt. 12 cav., Manila, P. I.
Morris, W. V., 1 lt. 6 cav., West Point, N. Y.
Morrison, C. E., col., Parkersburg, W. Va.
Morrison, G. L., lt. 5 cav. Ft. Apache, Ariz.
Morrow, H. M., maj. j. a., San Francisco, Cal.
Morrow, J. J., capt. eng., Washington, D. C.
Morton, C., col. 7 cav., Ft. Myer, Va.
Morton, C. E., 1 lt. 16 inf., Ft. Leavenworth.
Moseley G. V. H., 1 lt. 1 cav., San Antonio, Tex.
Moses, G. W., capt. pay dept., Kansas City, Mo.
Mott, T. B., capt. art. corps, Paris, France.
Mowry, P., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Mueller, Albert H., 2 lt. 8 cav., Ft. Riley, Kan.
Mueller, R. W., capt., Milwaukee, Wis.
Müller, C. H., 2 lt. 10 cav., Ft. Robinson, Neb.
Mumma, Morton C., 1 lt. 2 cav., Manila, P. I.
Munro, H. N., 2 lt. 1 cav., Ft. Sam Houston.
Munro, J. N., capt. 3 cav., Ft. Assinniboine.
Murphy, P. A., capt. 1 cav., Ft. Clark, Tex.
Murphy, Will H., capt., Corsicana, Tex.
Murray, C. H., maj. 4 cav., San Francisco, Cal.
Myers, Hu B., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Nance, John T., capt. 9 cav., Presidio, San Francisco, Cal.
Naylor, C. J., 2 lt. 4 cav., Jefferson Bks, Mo.
Naylor, W. K., capt. 9 inf., Ft. Leavenworth.
Nichols, Wm. A., maj. insp. gen'l dept., St. Louis, Mo.
Nicholson, Wm. J., major 7 cavalry, Camp Thomas, Ga.
Nissen, A. C., capt. 5 cav., Ft. Huachuca, Ariz.
Noble, Robert H., capt. 3 inf., Manila, P. I.
Nockolds, C., vetn. 1 cav., Ft. Sam Houston, Tex.
Nolan, D. E., capt. 30 inf., Washington, D. C.
Nolan, Robert M., 1 lt. 1 cav., Ft. Clark, Tex.
Norman, Wm. W., capt., 2 Punjab cav.
Norton, Clifton R., 2 lt. 15 cav., Ft. Myer, Va.
Norvell, Guy S., 1 lt. 8 cav., Jefferson Bks, Mo.
Norvell, S. T., lt. col. ret., Tallahassee, Fla.
Notmeyer, Wm. C., lt., Pierre, S. D.
Noyes, Charles R., maj. 9 inf., Omaha, Neb.
Noyes, Henry E., col. ret., 2938 Van Ness ave., San Francisco, Cal.
Oakes, James, brig. gen. ret., care N. Holmes & Sons, Pittsburg, Pa.
O'Connor, Charles M., maj. 14 cav., Manila, P. I.
Odell A. S., 1 lt. 11 cav., Ft. Riley.
Oden, G. J., 1 lt. 10 cav., Ft. Mackenzie, Wyo.
Offley, Edward M., 2 lt. 12 cav., Ft. Clark, Tex.
Oliver, L. W., 1 lt. 8 cav., Ft. Riley, Kan.
Oliver, Prince A., 2 lt. 5 cav., Ft. Apache, Ariz.
Olmstead, E., North Broad st., Elizabeth, N. J.
Orton, Edward P., capt. 2 cav., Manila, P. I.
O'Shea, John, capt. 4 cav., Jefferson Bks, Mo.
Otis, Frank L., 2 lt. 8 cav., Ft. Leavenworth.
Ott, Frederick M., capt., Harrisburg, Pa.
Overton, W. W., 2 lt. 15 cav., Ft. Ethan Allen.
Paddock, G. H., lt. col. 5 cav., 194 s Clark st., Chicago, Ill.
Page, Charles, brig. gen. ret., Baltimore, Md.
Paine, Wm. H., capt. 7 cav., Ft. Leavenworth.
Palmer, B., 1 lt. 10 cav., Ft. Robinson, Neb.
Palmer, H. W., lt., 2711 Prospect st., Tacoma.
Parker, C., jr., lt., 765 Broad st., Newark, N. J.
Parker, Dexter Wm., Meriden, Conn.
Parker, F. Le J., capt. 12 cav., Manila, P. I.
Parker, James, lt. col., adj. genl's dept., Star bldg., St. Louis, Mo.
Parker, J. S., capt. 10 cav., Ft. Mackenzie, Wyo.
Parker, Samuel D., 50 State st., Boston, Mass.
Parsons, L., capt. 8 cav., Fayetteville, Ark.
Patterson, W. L., 1 lt. Porto Rico regt. Cayey.
Pattison, H. H., capt. 3 cav., Ft. Assinniboine.
Paxton, R. G., capt. 10 cav., Ft. Robinson, Neb.
Pearson, D. C., lt. col. 7 cav., Camp Thomas, Ga.
Pearson, S. B., 1 lt. 9 cav., Three Rivers, Cal.
Penn, Julius A., capt. 7 inf., Manila, P. I.
Penfield, W. G., lt. ord. dept., Watertown Arsenal, Watertown, Mass.
Perkins, A. S., 1 lt. 1 cav., Ft. Clark, Texas.
Perkins, Chas. E., capt., Nogales, Arizona.
Perrins, Wm. A., maj., box 7, Roxbury, Mass.
Perry, Alex. W., capt. 11 cav., Ft. Des Moines.
Perry, Oran, gen., Indianapolis.
Pershing, J. J., capt. 15 cav., Oklahoma City.
Pershing, W. B., 1 lt. 4 cav., Ft. Riley, Kan.
Phillips, Irvin L., capt. 13 cav., Manila, P. I.
Pilcher, W., 1 lt. 9 cav., Ft. Bayard, N. M.
Pitcher, J., maj. 6 cav., Ft. Yellowstone, Wyo.
Place, Olney, 2 lt. 6 cav., Ft. Meade, S. D.
Plummer, E. H., maj. 3 inf., Ft. Egbert, Alaska.
Poillon, Arthur, 1 lt. 14 cav., Manila, P. I.
Pond, G. E., col. Q. M. dept., Washington, D. C.
Poore, Benj. A., capt. 6 inf., Ft. Leavenworth.
Pope, Francis H., capt. 14 cav., Manila, P. I.
Pope, Wm. R., 2 lt. 2 cav., Manila, P. I.
Power, E. L., capt., Lebanon, Ore.
Powers, Robert B., capt. 7 cav., Camp Thomas.
Pratt, Richard H., brig. gen., Bemuspoint, N.Y.
Prentice, J., 2 lt. art. corps, Fremont, S. C.
Price, G. E., 2 lt. 10 cav., Ft. Robinson, Neb.
Prichard, G. B., jr., capt. 5 cav., Ft. Huachuca.
Purington, G. A., 1 lt. 8 cav., Ft. Sill, Okla.
Purviance, S. A., 1 lt. 4 cav., Ft. Leavenworth.
Quinlan, D. P., lt. 9 cav., Holliwood, Cal.
Ramsey, Frank De W., capt. 9 inf., 22 Jackson Place, Washington, D. C.
Randolph, H. M., maj., Denver, Col.
Randolph, W. F., maj. gen. ret., Washington.
Rankin, R. C., maj., Las Vegas, New Mex.
Rawle, James, lt., Bryn Mawr, Pa.
Rawle, Wm. B., lt. col., 211 S. 6 st., Philadelphia.
Raymond, J. C., capt. 2 cav., Ft. Meade, S. D.
Raysor, M. C., 1 lt. 5 cav., Ft. Apache, Ariz.
Read, B. A., 1 lt. 6 cav., Ft. Meade, S. Dak.
Read, G. W., capt. 9 cav., Washington, D. C.
Read, John H., jr., 2 lt. 14 cav., Manila, P. I.
Read, R. D., jr., maj. 10 cav., Ft. Mackenzie.
Reaney, R. J., 1 lt. 2 cav., Manila, P. I.
Reed, Wm. O., 1 lt. 6 cav., World's Fair, St. Louis.
Reeves, Jas. H., capt. 14 cav., Manila, P. I.
Remington, F., 301 Webster ave., New Rochelle, New York.
Renziehausen, W. B., lt. 4 cav., Jefferson Bks, Mo.
Rethorst, Otto W., 1 lt. 8 cav., Ft. Sill, Okla.
Reynolds, Robt. W., 2 lt. 13 cav., Manila, P. I.
Rhea, J. C., 1 lt. 7 cav., Camp Thomas, Ga.
Rhodes, A. L., 2 lt. art. corps, Ft. Strong, Mass.
Rhodes, C. D., capt. 6 cav., Washington, D. C.
Rice, S., capt. 3 cav., Ft. Assinniboine, Mont.
Rich, A. T., 2 lt. 26 inf., Ft. Sam Houston, Tex.
Richard, J. J., capt., 28 Walling st., Providence, R. I.
Richmond, H. S., capt., 747 Madison ave., Albany, N. Y.
Ridgway, T., capt. art., Ft. Snelling, Minn.
Riggs, Kerr T., 2 lt. 11 cav., Manila, P. I.
Righter, J. C., jr., 1 lt. 4 cav., Ft. Leavenworth.
Ripley, Henry L., maj. 8 cav., Ft. Sill, Okla.

Ripple, Ezra H., Scranton, Pa.
Rivers, T. R., capt. 4 cav., Ft. Leavenworth.
Rivers, Wm. C., capt. 1 cav., Manila, P. I.
Robe, Chas. F., brig. gen. ret., San Diego, Cal.
Roberts, Hugh A., 1 lt. 8 cav., Ft. Riley.
Roberts, T. A., capt. 7 cav., Camp Thomas, Ga.
Roberts, Wm. M., 1 lt. M. D., Ft. Sill, Okla.
Robertson, S. W., 2 lt. 15 cav., Ft. Ethan Allen.
Rockenbach, S. D., capt. 12 cav., Manila, P. I.
Rockwell, V. LaS., 1 lt. 11 cav., Ft. Des Moines.
Rodgers, A., lt. col. 15 cav., Ft. Ethan Allen, Vt.
Rodney, D. R., 2 lt. 5 cav., Ft. Apache, Ariz.
Rodney, G. B., 1 lt. 5 cav., Ft. Apache, Ariz.
Rodney, W. H., 2 lt. 1 cav., Ft. Clark, Tex.
Roe, C. F., maj. gen., 280 Broadway, N. Y.
Roome, B. R., lt., Pier 32 New E River, N. Y.
Roscoe, David L., 2 lt. 1 cav., Ft. Clark, Tex.
Rosenbaum, O. B., capt. 26 inf., Ft. Sam Houston, Tex.
Ross, J. O., 1 lt. 15 cav., Ft. Ethan Allen, Vt.
Rothwell, T. A., 2 lt. 5 cav., Ft. Duchesne.
Roudiez, Leon S., capt. q. m. dept., Ft. Riley, Kan.
Rowan, H., maj. art., Ft. Terry, N. Y.
Rowell, M. W., capt. 11 cav., Manila, P. I.
Rucker, Louis H., brig. gen. ret., Los Angeles.
Ruggles, F. A., 2 lt. 9 cav., Ft. Myer, Va.
Ruhlen, G., lt. col. Q. M., Washington, D. C.
Russell, E. K., maj. ret., Philadelphia.
Russell, F. W., lt., Plymouth, N. H.
Russell, Geo. M., 2 lt. 14 cav., Manila, P. I.
Russell, G., maj. ret., Albany Hotel, Denver.
Rutherford, S. McP., capt. 4 cav., Ft. Riley.
Ryan, James A., capt. 15 cav., Ft. Myer, Va.
Ryan John P., capt. 6 cav., Ft. Leavenworth.
Ryan, T. F., 1 lt. 11 cav., Ft. Leavenworth.
Sands, G. H., capt. 6 cav., Ft. Meade, S. Dak.
Sargent, H. H., capt. 2 cav., College Sta., Tex.
Sawtelle, C. G., jr., capt. 8 cav., Jefferson Bks.
Saxton, Albert E., capt. 8 cav., Jefferson Bks.
Sayre, Farrand, capt. 8 cav., Ft. Leavenworth.
Sayre, R. H., lt., 9 E 40 st., New York.
Schenck, A. D., lt. col. art. corps, Ft. Stevens, Oregon.
Scherer, L. C., capt. 4 cav., Washington, D. C.
Schermerhorn, F. E., capt., 1420 Chestnut st., Philadelphia.
Schofield, R. McA., capt. Q. M. D., St. Paul.
Schroeter, A. H., 1 lt. 1 cav., Ft. Sam Houston, Texas.
Schultz, Theo., 1 lt. 14 cav., Manila, P. I.
Schuyler, Walter S., lt. col. 2 cav., Manila, P. I.
Schwan, Theo., brig. gen. ret., 16 Aberdeen, St. Paul, Minn.
Schwarzkopf, Olof, vetn. 3 cav., Ft. Assiniboine, Mont.
Scott, Geo. L., maj. 10 cav., Onigum, Minn.
Scott, Hugh L., maj. 14 cav., Manila, P. I.
Scott, W. J., 1 lt. 10 cav., Ft. Robinson, Neb.
Scott, W. S., capt. 1 cav., constabulary, Manila.
Scott, W. S., capt. Q. M. D., Cheyenne, Wyo.
Seoane, C. A., 1 lt. 3 cav., Ft. Yellowstone, Wyo.
Service, S. W., vetn. 10 cav., Ft. Mackenzie, Wyo.
Sharpe, H. G., col. sub. dept., Washington, D. C.
Sheldon, R., lt. 23 inf., Manila, P. I.
Shelley, J. E., 1 lt. 11 cav., Ft. Sheridan, Ill.
Sheridan, M. V., brig. gen. ret., Carlisle, Pa.
Sheridan, P. H., 2 lt. 5 cav., Ft. Huachuca.
Shunk, Wm. A., maj. 8 cav., Delafield, Wis.
Sibley, F. W., maj. 2 cav., Manila, P. I.
Sickel, H. G., maj. 12 cav., Manila, P. I.
Sidman, F. E., 2 lt. 8 cav., Ft. Sill, Okla.
Sievert, H. A., capt. 9 cav., Ft. Leavenworth.
Sillman, Robt. H., 1 lt. 15 inf., Monterey, Cal.
Sills, William G., capt. 1 cav., Ft. Sam Houston, Tex.
Simms, C. W., col., Ronceverte, Greenbrier Co. W. Virginia.
Simpson, W. L., capt. 6 inf., Ft. Leavenworth.
Simpson, W. S., capt., Bovina, Texas.
Sirmyer, Edgar A., capt. 8 cav., Ft. Riley, Kan.
Slavens, T. H., capt. Q. M. D., Washington.
Slocum, H. J., maj. 2 cav., Manila, P. I.
Slocum, S. L'H., capt. 8 cav., Jefferson Bks, Mo.
Smalley, Howard R., 2 lt. 2 cav., Manila, P. I.
Smedberg, Wm. R., maj. ret., San Francisco.
Smedberg, W. R., jr., capt. 14 cav., Manila, P. I.
Smith, A. L., lt. col. sub. dep., St. Louis, Mo.
Smith, Cornelius C., capt. 14 cav., Manila, P. I.
Smith, Frederick McC., lt. art. corps., Ft. Williams, Me.
Smith, Gilbert C., 1 lt. 2 cav., Manila, P. I.
Smith, Harry R., col., Clarksburg, W. Va.
Smith, M. C., capt. 14 cav., Manila, P. I.
Smith, R. M., 1 lt. Philippine scouts, Manila.
Smith, Selwyn D., 1 lt. 5 cav., Ft. Apache, Ariz.
Smith, Talbot, 2 lt. 8 cav., Ft. Riley, Kan.
Smith, Walter D., 2 lt. 11 cav., Ft. Des Moines.
Smith, Walter H., 2 lt. 13 cav., Manila, P. I.
Somerville, Geo. R., 2 lt. 14 cav., Manila, P. I.
Sproule, Wm. A., vetn. art., Ft. D. A. Russell.
Stanclift, Ray J., vetn. 8 cav., Jefferson Bks.
Starr, C. G., maj. inf., Manila, P. I.
Stedman, C. A., col. 5 cav., Ft. Huachuca, Ariz.
Steele, Matt. F., capt. 6 cav., Ft. Leavenworth.
Steever, Edgar Z., col. 4 cav., Ft. Riley, Kan.
Sterling, E. K., 2 lt. 3 cav., Ft. Assiniboine.
Sterrett, R., 1 lt. 9 cav., Ft. Walla Walla, Wash.
Steunenburg, Geo., 1 lt. 13 cav., Manila, P. I.
Stevens, Chas. J., capt. 2 cav., Manila, P. I.
Stevenson, Wm. L., 2 lt. 11 cav., Jefferson Bks.
Stewart, Cecil, capt. 4 cav., Portland, Oreg.
Stewart, C. W., lt. 5 cav., Ft. Huachuca, Ariz.
Stewart, T. J., brig. gen., Harrisburg, Pa.
Stiles, J. C., com. nav. bat., Brunswick, Ga.
Stockle, Geo. E., capt. 8 cav., Jefferson Bks.
Stodter, C. E., capt. 9 cav., Ft. Walla Walla.
Stopford, F. W., 1 lt. art., Ft. Monroe, Va.
Stott, Clarence A., 2 lt. 12 cav., Manila, P. I.
Straub, Oscar L., capt. art., Ft. Leavenworth.
Strong, F. S., capt. art., Ft. Barrancas, Fla.
Strong, G., capt., 108 Dearborn st., Chicago.
Stryker, Goss L., 2 lt. 6th cav., Ft. Meade, S. D.
Sturges, Dexter, 1 lt. 13 cav., Manila, P. I.
Sturges, Edw. A., 1 lt. 5 cav., Ft. Apache, Ariz.
Sues, Geo. W., capt., 4128 Ellis ave., Chicago, Illinois.
Sumner, S. S., maj. gen., Oklahoma City, Okla.
Suplee, E. M., capt. 14 cav., Davenport, Ia.
Sweezey, C. B., capt. 13 cav., Manila, P. I.
Swift, Eben, maj. 12 cav., Ft. Leavenworth.
Swift, Eben, jr., 1 lt. 11 cav., Ft. Leavenworth.
Swigert, Samuel M., col. ret., San Francisco.
Symington, John, 2 lt. 11 cav., Ft. Riley, Kan.
Tate, Daniel L., capt. 3 cav., Boise Bks, Idaho.
Tatum, H. C., 2 lt. 7th cav., Camp Thomas, Ga.
Taulbee, Joseph F., 2 lt. 2 cav., Manila, P. I.
Taulbee, M. K., 1 lt. P. R., Cayey.
Taylor, C. W., maj. 13 cav., St. Paul, Minn.
Taylor, T. B., 1 lt. 11 cav., Jefferson Bks, Mo.
Taylor, W. R., 1 lt. 3 cav., Ft. Assiniboine.
Tempany, J., vetn. 9 cav., Ft. Walla Walla.
Terrell, H. S., 1 lt. 10 cav., Ft. Mackenzie, Wyo.
Thayer, Arthur, capt. 3 cav., World's Fair, St. Louis.
Thomas, C. O., jr., 1 lt. 1 cav., Manila, P. I.
Thomas, Earl D., col. 11 cav., Ft. Des Moines.
Thurston, N. B., lt. col., 176 W. 87th st., N. Y.
Tilford, J. D., 1 lt. 1 cav., Ft. Leavenworth.
Tompkins, C. H., brig. gen. ret., Ebbitt House, Washington, D. C.
Tompkins, D. D., 2 lt. 10 cav., Ft. Mackenzie.
Tompkins, E. R., 1 lt. 11 cav., Jefferson Bks.
Tompkins, F., capt. 11 cav., Ft. Des Moines.
Towar, Albert S., col. pay dept., Chicago.
Towles, Churchill, maj., Houston, Tex.
Townsend, C. C., capt., Greeley, Col.
Townsend, P. C., Corsicana, Tex.
Townshend, Orval P., capt. P. R., Cayey.
Traub, Peter E., capt. 5 cav., Ft. Leavenworth.
Treat, Chas. G., capt. art. corps, West Point.
Tremaine, Wm. C., 1 lt. 15 cav., Ft. Myer, Va.
Tripp, S. O., lt. col., Peoria, Ill.
Trippe, P. E., capt. 12 cav., Richmond, Va.
Trout, Harry G., capt. 2 cav., Manila, P. I.
Troxel, Orlando C., 2 lt. 12 cav., Manila, P. I.
Tucker, W. F., lt. col. pay dept., Manila, P. I.
Turner, Fred. G., 1 lt. 6 cav., Ft. Meade, S. Dak.

Turnbull, W., 1 lt. M. D., Ft. Strong, Mass.
Tuthill, A. M., capt., Morenci, Ariz.
Tyner, Geo. P., 1 lt. 2 cav., Manila, P. I.
Uri, J. H., vetn. 6 cav., Ft. Meade, S. D.
Valentine, Wm. S., capt. 5 cav., Ft. Wingate.
Valliant, R. D., 2 lt. 3 cav., Ft. Yellowstone.
Van Deusen, G. W., capt. art., Manila.
Van Leer, S., 1 lt. 15 cav., Ft. Myer, Va.
Van Natta, T. F., jr., 2 lt. 8 cav., Fort Sill, O. T.
Vans Agnew, R. S., vet. 5 cav., Ft. Apache, Ariz.
Van Voorhis, D., 1 lt. 3 cav., Ft. Leavenworth.
Varnum, C. A., maj. 9 cav., Ft. Riley, Kan.
Vestal, S. P., capt. 7 cav., Silver City, N. M.
Vidmer, Geo., capt. 11 cav., World's Fair Station, St. Louis.
Viele, C. D., col. ret., Los Angeles, Cal.
Vierra, F. M., lt., Salinas, Cal.
Vroom, P. D., brig. gen. ret., care Hdqrs, San Francisco.
Wade, James F., maj. gen., Governor's Island.
Wade, John P., capt 2 cav., Manila, P. I.
Wagner, A. L., col. a. g. dept., 22 Jackson Place, Washington, D. C.
Wagner, H., lt. col. ret., 201 W. 43 st., N. Y. City.
Waite, H. De H., 1 lt. ret., Berkeley, Cal.
Walcutt, Chas. C., jr., capt. (cav.) qm. dept., Prescott, Ariz.
Waldo, Rhinelander, 1 lt. 17 inf., Manila, P. I.
Walker, K. W., capt. 15 cav., Ft. Myer, Va.
Walker, Kirby, capt. 14 cav., Manila, P. I.
Walker, R. W., 1 lt. 5 cav., Ft. Huachuca, Ariz.
Wallach, R. R., 1 lt. 3 cav., Ft. Assininiboine.
Walsh, R. D., capt. 9 cav., Ft. Leavenworth.
Wampold, L., capt., cor. Market and Jackson st., Chicago.
Warburton, C. E., capt., 704 Chestnut st., Philadelphia.
Ward, E. M., capt., 43 South street, New York.
Ward, F. K., lt. col. 1 cav., Ft. Clark, Tex.
Warren, Rawson, 2 lt. 11 cav., Ft. Sheridan.
Wassell, Wm. H., capt. 22 inf., Manila, P. I.
Waterman, John C., capt. 7 cav., Grand Rapids.
Watrous, J. A., maj. pay dept., Omaha, Neb.
Watson, Jas. W., capt. 10 cav., New Orleans.
Watson, J., 1 lt. 8 cav., Jefferson Bks, Mo.
Watts, C. H., maj. 5 cav., Ft. Huachuca, Ariz.
Wells, A. B., brig. gen. ret., Geneva, N. Y.
Wells, B., capt., Telluride, Col.
Wesendorff, Max, capt. ret., Elizabeth, N. J.
Wesson, Chas. M., 1 lt. 8 cav., West Point.
West, Chas., lt. col., Enid, Okla.
West, E. S., 1 lt. 7 cav., Chickamauga Park, Ga.
West, F., lt. col., insp. gen., Oklahoma City.
West, P. W., capt. 11 cav., San Francisco.
Westmoreland, Wade H., 2 lt. 11 cav., Fort Riley.
Wetmore, W. B., maj., Allenhurst, N. J.
Weibrecht, Chas., lt. col., Alliance, O.
Weyrauch, Paul H., 2 lt. 14 cav., Manila, P. I.
Wheatley, Wm. F., 2 lt. 5 cav., Whipple Bks.
Wheeler, Fred, maj. ret., Boston, Mass.
Wheeler, H. W., maj. 11 cav., Ft. Sheridan.
Whigam, W. H., capt., 38 Loomis st., Chicago.
White, Geo. P., capt. (cav.) qm. dept. Presidio, San Francisco.
White, H. A., capt. 11 cav., Ft. Leavenworth.
Whitehead, H. C., capt. 10 cav., Ft. Robinson.
Whitesides, J. G., lt., 3rd floor Keith Bldg, Philadelphia, Pa.
Whitlock, F. O., 1 lt. 14 cav., West Point.
Whitman, W. M., capt. 13 cav., Manila, P. I.
Whitside, S. M., brig. gen. ret., Station A, Washington, D. C.
Whitside, W. W., 1 lt. 15 cav., Ft. Myer, Va.
Wieman, Henry, 176 Grove st., Brooklyn, N. Y.
Wilen, John W., 1 lt. 13 cav., Manila, P. I.
Williams, A. E., capt. 3 cav., Ft. Apache, Ariz.
Williard, Harry O., capt. 5 cav., 16th and Dodge sts., Omaha, Neb.
Wills, H. S., lt., 86 Allen st., Albany.
Wilson, J. C., maj., 144 22d st., Chicago, Ill.
Wilson, James H., brig. gen. ret., 1305 Rodney ave., Wilmington, Del.
Winans, E. B., jr., capt. 4 cav., Ft. Riley, Kan.
Windsor, Henry, jr., Revere Copper Co., Boston, Mass.
Winfree, S. W., 2 lt. 9 cav., Wawona, Cal.
Winham, F. W., capt., Salinas, Cal.
Winn, John S., capt. 2 cav., Manila, P. I.
Winnia, C. C., 1 lt. 5 cav., Ft. Huachuca.
Wint, Theodore J., brig. gen., Omaha, Neb.
Winter, J. G., jr., 2 lt. 6 cav., Ft. Meade, S. Dak.
Winter, M. A., col., 339 Pennsylvania ave., Washington, D. C.
Winterburn, G. W., 1 lt. 9 cav., Three Rivers, Cal.
Winters, Wm. H., 1 lt. 13 cav., Manila, P. I.
Wise, H. D., capt. 9 inf., Madison Bks, N. Y.
Wisser, J. P., maj. coast art., Ft. Miley, Cal.
Wood, Edward E., col., West Point, N. Y.
Wood, John P., lt., 5211 N 22d st., Philadelphia.
Wood, Leonard, maj. gen., Manila, P. I.
Wood, Robert E., 1 lt. 3 cav., West Point, N. Y.
Wood, Thomas J., brig. gen. ret. (maj. gen.), 121 N. Main st., Dayton, Ohio.
Woodruff, Carle A., gen. ret., Raleigh, N. C.
Woodruff, Charles A., brig. gen. ret., 2802 Van Ness ave., San Francisco, Cal.
Woodruff, Wm. S., 1 lt. Porto Rico regt., Cayey.
Woodward, Samuel L., brig. gen. ret., Clemen ave., St. Louis, Mo.
Wotherspoon, W. W., lt. col. 14 inf., Washington, D. C.
Woude, A. J., 1 lt. 6 cav., Ft. Keogh, Mont.
Wright, E. S., capt. 1 cav., Ft. Clark, Tex.
Wright, Wm. R., lt., 71 Leonard st., New York.
Yates, A. W., capt. qm. dept., Portland, Me.
Yates, Wm., capt. 14 cav., Laramie, Wyo.
Young, E. C., col., Chicago.
Young, Samuel B. M., lt. gen. ret., 25 E 60th st., New York City.
Zane, Edmund L., 2 lt. 14 cav., Manila, P. I.
Zell, Edward M., 2 lt. 7 cav., Ft. Myer, Va.
Zinn, George A., maj. eng., Wheeling, W. Va.

Publisher's Notices.

AN AMERICAN PRODUCT SCORES ANOTHER GREAT VICTORY IN GERMANY.

Prof. Dr. Lintner, director of the "Scientific Station for the Brewing Industry of Bavaria at Munich," upon analyzing "Pilsner Urquell," the beers of the "Buergerliches Brauhaus" of Pilsen, Bohemia, and "Anheuser-Busch's Budweiser," under date of May 17, 1904, makes the following statement sworn to before Dr. Pundter, Royal Notary, and verified by Hon. James H. Worman, U. S. Consul-General at Munich, Bavaria:

"Upon subjecting the several beers to a careful analysis I find that the 'Budweiser Beer,' submitted by the Anheuser-Busch Brewing Ass'n, St. Louis, U. S. A., is very similar in all its characteristics to the finest and best Pilsner beers. It is effervescent, clear and sparkling, has a beautiful creamy foam, and is possessed of a pure, wholesome taste and an exquisite hop flavor. Its keeping qualities by far exceed those of the Pilsner beers, resulting from the use of the very best materials in brewing, and the thorough maturity of the product. The analysis further shows that no acids or other preservatives have been used in its production, and as a result of my examination I pronounce 'Budweiser' a well matured bottled beer of the highest quality."

This acknowledgment, coming as it does from the recognized headquarters of the brewing industry of the old world, must be a great source of gratification and in a measure a compensation to the Anheuser-Busch people for their unceasing efforts to produce the finest beer that can be made.

"THE SOUTHWEST LIMITED."

One of the few railroad companies that owns and operates the sleeping cars in service on its lines, is the Chicago, Mil-

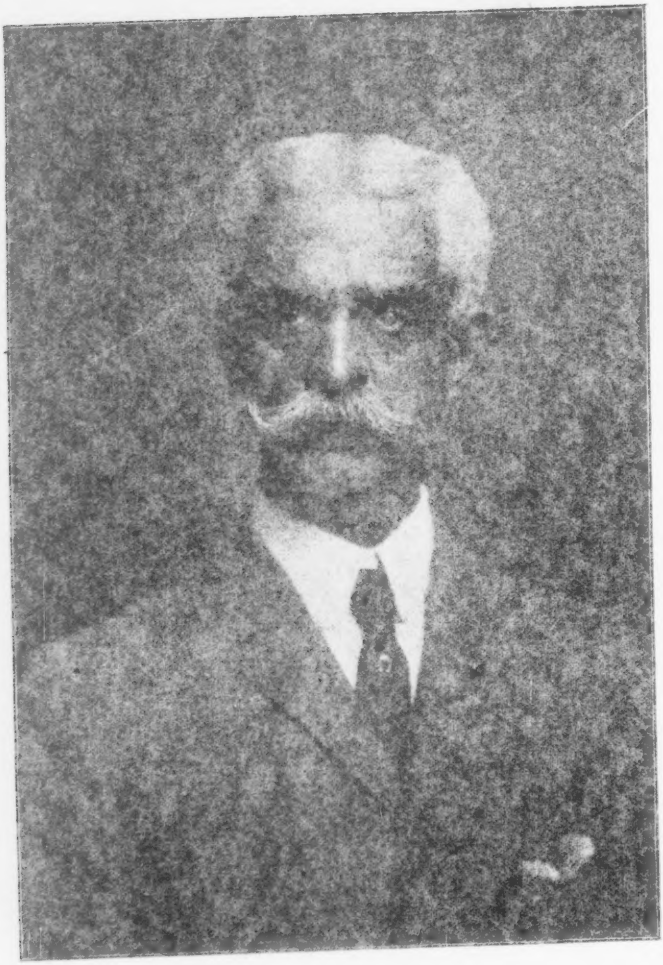
waukee & St. Paul. The sleeping cars on this line were formerly Pullman cars, operated by the Pullman company, but for a dozen years past the railway company has owned and operated the sleeping car equipment. In building its sleeping cars, a departure from the old standard pattern of cars has been made to the extent of adding about six inches to the width and height of the sleepers. This permits of wider and higher berths. Length has also been added to the berths, so that comfort is found in them which is lacking in ordinary sleeping cars. These large cars are in service on practically all of the lines of the St. Paul Road, and are very popular with the traveling public.

"ANDERSON RYE."

The E. L. Anderson Distilling Company, of Newport, Kentucky, belongs to the best known line of distilling companies in the country. Its product is so well and favorably known among connoisseurs that anything we may say in its favor would not add to the reputation it has so widely attained. "Anderson" needs no introduction from the JOURNAL to army men. They know a good article when they taste it, and that is why it is so popular among them. A glance over the company's announcement in our advertising department will give the JOURNAL readers an opportunity to ascertain how reasonable their goods can be obtained. They certainly deserve a trial.

"POLISHINE."

With its well earned reputation for *greatness and modesty*, we may be excused for calling to the attention of a discriminating public the words of the immortal Shakespeare, who wrote or said: "*Ay, there's the rub.*" Of course, he referred to "Polishine," with which it is *so easy* to clean and polish all metals, etc., in just "one-half the time" with "just one-half the labor," and but "one-half the quantity" required in using other brands. Later he added: "What fools these mortals be" who fail to buy and use great "Polishine."



Robert Shaw Oliver

ASSISTANT SECRETARY OF WAR.

UNIV. OF MICH.